

138738  
SEARCH REQUEST FORM

Access DB# \_\_\_\_\_

Scientific and Technical Information Center

CREF

Requester's Full Name: DAVID A. SAUNDERS Examiner #: 64910 Date: 11/26/04  
Art Unit: 1644 Phone Number: 301-272-0849 Serial Number: 10/089,700  
Mail Box and Bldg/Room Location: REM 3C70 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: DIAGNOSTIC AND THERAPEUTIC EPITOPE AND TRANSGENIC PLANT

Inventors (please provide full names): ROBERT P ANDERSON, ANDRIAN HILL,  
DEREK P JEWELL

Earliest Priority Filing Date: 10/01/99 (GB) 10/02/2000 (PCT, PUBLISHED AS WO 01/25793)

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

PLEASE SEARCH SEQ ID NOS 1 & 2 (1 IS A SUB-SEGMENT OF 2). THESE ARE BOTH SUB-SEQUENCES OF GLIADIN (SEQ ID NO: 3) WITH A MUTATION AT POSITION 65 FROM GLN TO GLU. I AM ONLY INTERESTED IN HITS THAT HAVE THIS MUTATION. THUS, YOU MAY WANT TO DO AN EXACT SEARCH FOR SEQ ID NOS: 1 AND/OR 2.

PLEASE SEARCH SEQ ID NO: 3 (GLIADIN), IF POSSIBLE PLEASE SEARCH THIS WITH EACH OF THE FOLLOWING SUBSTITUTIONS AT POSITION 65 IN PLACE OF GLN:  
HIS, TYR, TRP, LYS, PRO, ARG. OTHERWISE YOU WILL LIKELY GET A LARGE NO. OF HITS FOR THE UNALTERED GLIADIN.

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GenCore version 5.1.6  
Copyright (c) 1993 - 2004 CompuGen Ltd.

OW protein - protein search, using sw model

Run on: December 15, 2004, 15:22:18 ; Search time 152 Seconds  
(without alignments)  
16.520 Million cell updates/sec

Title: US-10-089-700-1

Perfect score: 42

Sequence: 1 P0P0L1P7 7

Scoring table: BLOSUM62

Searched: 2002273 seqs, 358729239 residues

Total number of hits satisfying chosen parameters: 67

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 100%

Maximum Match 100%

Database :

Listing first 500 summaries

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	42	100.0	7	4 AAU01797	AAU01797 Wheat A-g
2	42	100.0	7	8 ADP91448	Adp91448 Immunogen
3	42	100.0	7	8 ADP91337	Adp91337 High affi
4	42	100.0	7	8 ADH14511	Adh14511 Gliadin r
5	42	100.0	9	8 ADP91460	Adp91460 T-cell ep
6	42	100.0	9	8 ADP91462	Adp91462 T-cell ep
7	42	100.0	9	8 ADP91464	Adp91464 Immunogen
8	42	100.0	9	8 ADP91461	Adp91461 T-cell ep
9	42	100.0	9	8 ADP19619	Adp19619 Antigenic
10	42	100.0	9	8 ADP19623	Adp19623 Antigenic
11	42	100.0	9	8 ADP19620	Adp19620 Antigenic
12	42	100.0	10	8 ADP91449	Adp91449 Immunogen
13	42	100.0	11	4 AAU01811	AAU01811 Wheat A-g
14	42	100.0	11	8 ADH14524	Adh14524 Gliadin r
15	42	100.0	11	8 ADH14524	Adh14524 Gliadin r
16	42	100.0	12	4 AAU01827	AAU01827 Alpha-Gli
17	42	100.0	12	4 AAU01809	AAU01809 Wheat alp
18	42	100.0	12	7 AAE38560	AAE38560 Wheat pep
19	42	100.0	12	8 ADP91475	Adp91475 Peptide f
20	42	100.0	12	8 ADH14576	Adh14576 Gliadin r
21	42	100.0	12	8 ADH14559	Adh14559 Gliadin r
22	42	100.0	12	8 ADH14573	Adh14573 Gliadin r
23	42	100.0	12	8 ADH16186	Adh16186 Gliadin r
24	42	100.0	12	8 ADH14523	Adh14523 Gliadin r
25	42	100.0	12	8 ADH14571	Adh14571 Gliadin r

## ALIGNMENTS

26	42	100.0	12	8 ADH14648	Adh14648 Gliadin r
27	42	100.0	13	7 AAE38563	AAE38563 Wheat pep
28	42	100.0	13	8 ADP91447	Adp91447 Immunogen
29	42	100.0	13	8 ADP91450	Adp91450 Immunogen
30	42	100.0	13	8 ADP91349	Adp91349 High affi
31	42	100.0	13	8 ADH14656	Adh14656 Gliadin r
32	42	100.0	14	4 AAU01828	AAU01828 Alpha-Gli
33	42	100.0	14	7 AAE38564	AAE38564 Wheat pep
34	42	100.0	14	7 AAE38561	AAE38561 Wheat pep
35	42	100.0	14	8 ADH14649	Adh14649 Gliadin r
36	42	100.0	14	8 ADH14560	Adh14560 Gliadin r
37	42	100.0	14	8 ADH14577	Adh14577 Gliadin r
38	42	100.0	14	8 ADH14574	Adh14574 Gliadin r
39	42	100.0	14	8 ADH16188	Adh16188 Gliadin r
40	42	100.0	15	8 ADH14659	Adh14659 Gliadin r
41	42	100.0	15	8 ADH14658	Adh14658 Gliadin r
42	42	100.0	17	4 AAU01804	AAU01804 Wheat A-g
43	42	100.0	17	4 AAU01832	AAU01832 Gliadin r
44	42	100.0	17	4 AAU01843	AAU01843 Wheat pep
45	42	100.0	17	4 AAU01798	AAU01798 Wheat A-g
46	42	100.0	17	4 AAU01803	AAU01803 Wheat A-g
47	42	100.0	17	4 AAU01802	AAU01802 Wheat A-g
48	42	100.0	17	8 ADH14516	Adh14516 Gliadin r
49	42	100.0	17	8 ADH14564	Adh14564 Gliadin r
50	42	100.0	17	8 ADH14512	Adh14512 Gliadin r
51	42	100.0	17	8 ADH14635	Adh14635 Gliadin r
52	42	100.0	17	8 ADH16210	Adh16210 Gliadin r
53	42	100.0	17	8 ADH14518	Adh14518 Gliadin r
54	42	100.0	17	8 ADH16182	Adh16182 Gliadin r
55	42	100.0	17	8 ADH14557	Adh14557 Gliadin r
56	42	100.0	17	8 ADH14653	Adh14653 Gliadin r
57	42	100.0	17	8 ADH16183	Adh16183 Gliadin r
58	42	100.0	17	8 ADH14517	Adh14517 Gliadin r
59	42	100.0	17	8 ADH14633	Adh14633 Gliadin r
60	42	100.0	17	8 ADH14693	Adh14693 Gliadin r
61	42	100.0	17	8 ADH14589	Adh14589 Control p
62	42	100.0	17	8 ADH14588	Adh14588 Gliadin r
63	42	100.0	17	8 ADH14537	Adh14537 Control p
64	42	100.0	17	8 ADH14575	Adh14575 Gliadin r
65	42	100.0	20	4 AAU01807	AAU01807 Wheat A-g
66	42	100.0	20	8 ADH14521	Adh14521 Gliadin r
67	42	100.0	33	8 ADP91350	Adp91350 High affi

RESULT 1  
AAU01797 standard; peptide; 7 AA.  
AAU01797;  
07-SEP-2001 (first entry)  
Wheat A-gliadin derived oligopeptide T-cell epitope.  
Wheat: A-gliadin; oligopeptide T-cell epitope; coeliac disease;  
gluten intolerance; T-cell binding; antagonist; transglutaminase;  
transgenic plant.  
Triticum aestivum.  
MO200125793-A2.  
12-Apr-2001.  
02-OCT-2000; 2000MC-GE003760.  
01-OCT-1999; 99GB-00023306.  
(ISIS-) ISIS INNOVATION LTD.

NO correspondence  
to internet  
priority document

Anderson RP, Hill AVS, Jewell DP;  
MPI; 2001-300179/31.  
Diagnosing coeliac disease or susceptibility to the disease in an individual, by detecting in vitro or in vivo T cells which bind immunodominant T cell epitope obtained from naturally occurring homolog of gliadin.

Claim 1; Page 6; 107pp; English.

The sequence is a wheat A-gliadin oligopeptide T-cell epitope. The peptides of the invention are used to test mammalian (preferably human) susceptibility to coeliac disease (gluten intolerance). The peptides are contacted with a blood sample and T cell recognition measured, a positive T-cell recognition indicating a susceptibility to coeliac disease. The peptides are useful for inducing tolerance in an individual and antagonists to the peptides are useful for treating or preventing coeliac disease in an individual and for producing an antibody specific to them or a wild-type sequence. A mutant gliadin protein (or its fragment of 15 amino acids in length) whose wild-type sequence can be modified by transglutaminase to a sequence that comprises the epitope, but which has been modified in such a way that it does not contain sequence which can be modified by transglutaminase to a sequence that comprises the epitope is useful for decreasing the ability of gliadin protein to cause Coeliac disease. Nucleic acids encoding proteins antagonistic to the T-cell binding of the epitopes are useful for obtaining a transgenic plant cell or seed and for the production of a protein. The resultant crop plant is useful for obtaining a product of a wheat plant, especially grain, which is optionally processed into flour or another grain product. Food comprising the antagonistic protein is useful instead of a wild-type gliadin

Sequence 7 AA;

Query Match 100.0%; Score 42; DB 4; Length 7;  
Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 PDELPY 7  
| | | | |  
Db 1 PDELPY 7

RESULT 2  
ADP91448  
ADP91448 standard; peptide; 7 AA.

ADP91448;

26-FEB-2004 (first entry)

Immunogenic gluten oligopeptide.

Dermatological; antidiabetic; gene therapy; HLA; inhibitor; immunogenic; gluten; Celiac Sprue; dermatitis herpetiformis; HLA-DQ2 positive; type I diabetes; protein co-ordinate data.

Synthetic.

WO2003096984-A2.

27-NOV-2003.

14-MAY-2003; 2003WO-US015506.

14-MAY-2002; 2002US-0380761P.  
28-JUN-2002; 2002US-0392782P.  
31-OCT-2002; 2002US-0429333P.  
20-NOV-2002; 2002US-0428033P.

(STRD ) UNIV LEIAND STANFORD JUNIOR.  
(SOLL ) SOLLID L M.

HAUSCH F.  
SHAN L.  
KHOSLA C.  
QUARSTEN H.  
Solid LM, Hausch F, Shan L, Khosla C, Quarsten H, Gray G;  
Kim C;  
MPI; 2004-053078/05.

New HLA-binding peptide inhibitor that is an analog of an immunogenic gluten oligopeptide, useful for preparing a composition for treating e.g., Celiac Sprue or dermatitis herpetiformis.

Claim 5; Page 112; 115pp; English.

The invention relates to a new HLA-binding peptide inhibitor, which is an analog of an immunogenic gluten oligopeptide of at least about 8 residues in length, altered by the replacement of one or more amino acids and that binds tightly to HLA molecules, and is proteolytically stable and does not activate disease-specific T cells. Also disclosed is a computer for producing a three-dimensional representation of an HLA-DQ2 molecule bound to an immunogenic gluten oligopeptide. The HLA-binding peptide inhibitor comprises the sequence PXXPDELPY. The HLA-binding peptide inhibitor is useful for preparing a composition for treating Celiac Sprue or dermatitis herpetiformis, or HLA-DQ2 positive individuals who are either predisposed to or have developed symptoms of type I diabetes. The current sequence represents an immunogenic gluten oligopeptide that may be modified to generate an HLA-binding peptide inhibitor.

Sequence 7 AA;

Query Match 100.0%; Score 42; DB 8; Length 7;  
Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 PDELPY 7  
| | | | |  
Db 1 PDELPY 7

RESULT 3  
ADP91337  
ADP91337 standard; peptide; 7 AA.

ADP91337;

26-FEB-2004 (first entry)

High affinity peptide substrate for tTGase.

Dermatological; neuroprotective; cytostatic; vulnery; anticonvulsant; neurotropic; antiparkinsonian; tranquiliser; antiinflammatory; immunosuppressive; celiac sprue; dermatitis herpetiformis; tissue transglutaminase; tTGase; inhibitor; gluten; neurological disorder; cancer; wound healing; Huntington's disease; Alzheimer's disease; Parkinson's disease; food intolerance.

Unidentified.

WO2003096979-A2.

27-NOV-2003.

14-MAY-2003; 2003WO-US015343.  
14-MAY-2002; 2002US-0380761P.  
28-JUN-2002; 2002US-0392782P.  
31-OCT-2002; 2002US-0429333P.  
20-NOV-2002; 2002US-0428033P.

(STRD ) UNIV LEIAND STANFORD JUNIOR.



GenCore version 5.1.6  
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## OM protein - protein search, using sw model

Run on: December 14, 2004, 16:55:59 ; Search time 161.5 Seconds  
(without alignments)  
37.761 Million cell updates/sec

Title: US-10-089-700-2

Perfect score: 97

Sequence: 1 QIQPPQPELPYRQPS 17

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2002273 seqs, 35872929 residues

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%  
Listing first 45 summaries

Database: 1: Geneseqp\_23sep04:\*

2: geneseqp1980s:\*\n3: geneseqp1990s:\*\n4: geneseqp2000s:\*\n5: geneseqp2002s:\*\n6: geneseqp2003as:\*\n7: geneseqp2003bs:\*\n8: geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query	Match Length	ID	Description
1	97	100.0	17	AAU01798	Aau01798 Wheat A-g
2	97	100.0	17	ADH14512	Adh14512 Gliadin r
3	97	100.0	17	ADH14635	Adh14635 Gliadin r
4	97	100.0	17	ADH16210	Adh16210 Gliadin r
5	97	100.0	17	ADH16182	Adh16182 Gliadin r
6	97	100.0	17	ADH14557	Adh14557 Gliadin r
7	97	100.0	17	ADH14633	Adh14633 Gliadin r
8	97	100.0	17	ADH14558	Adh14558 Gliadin r
9	97	100.0	17	ADH14575	Adh14575 Gliadin r
10	97	100.0	20	AAU01807	Aau01807 Wheat A-g
11	97	100.0	20	ADH14521	Adh14521 Gliadin r
12	97	100.0	17	AAU01803	Aau01803 Wheat A-g
13	94	96.9	17	AAU01802	Aau01802 Wheat A-g
14	94	96.9	17	AAU01806	Aau01806 Wheat A-g
15	94	96.9	17	ADH14516	Adh14516 Gliadin r
16	94	96.9	17	ADH16184	Adh16184 Gliadin r
17	94	96.9	17	ADH16194	Adh16194 Gliadin r
18	94	96.9	17	ADH14520	Adh14520 Gliadin r
19	94	96.9	17	ADH14634	Adh14634 Gliadin r
20	94	96.9	17	ADH14697	Adh14697 Gliadin r
21	94	96.9	17	ADH14666	Adh14666 Gliadin r
22	94	96.9	17	ADH14517	Adh14517 Gliadin r
23	94	96.9	17	ADH14591	Adh14591 Gliadin r
24	94	96.9	17	ADH14660	Adh14660 Gliadin r
25	94	96.9	17	ADH14660	Adh14660 Gliadin r

26	94	96.9	20	4	AAU01801	Aau01801 Wheat A-g
27	94	96.9	20	8	ADH14515	Adh14515 Gliadin r
28	94	96.9	266	4	AAU01799	Aau01799 Wheat A-g
29	94	96.9	266	8	ADH14513	Adh14513 A-gliadin
30	93	95.9	17	8	ADH14564	Adh14564 Gliadin r
31	93	95.9	17	8	ADH14537	Adh14537 Control P
32	93	95.9	33	8	ADP91350	Adp91350 High alt
33	93	95.9	17	4	AAU01804	Aau01804 Wheat A-g
34	91	93.8	17	4	ADH14518	Adh14518 Gliadin r
35	90	92.8	17	4	AAU01816	Aau01816 Wheat Gli
36	90	92.8	17	4	AAU01817	Aau01817 Wheat Gli
37	90	92.8	17	8	ADH16196	Adh16196 Gliadin r
38	90	92.8	17	8	ADH14671	Adh14671 Gliadin r
39	90	92.8	17	8	ADH14669	Adh14669 Control P
40	90	92.8	17	8	ADH14536	Adh14536 Control P
41	90	92.8	17	8	ADH14593	Adh14593 Gliadin r
42	90	92.8	17	8	ADH14638	Adh14638 Gliadin r
43	90	92.8	17	8	ADH14592	Adh14592 Gliadin r
44	90	92.8	17	8	ADH16195	Adh16195 Gliadin r
45	90	92.8	17	8	ADH14782	Adh14782 Gliadin r

## ALIGNMENTS

RESULT 1	AAU01798	standard; peptide; 17 AA.
ID	AAU01798	
XX	AAU01798:	
AC	07-SEP-2001 (first entry)	
DT		
XX		
DE	Wheat A-gliadin immunodominant T-cell epitope, A-gliadin 57-73 Q865.	
XX		
KW	Wheat; A-gliadin; immunodominant T-cell epitope; coeliac disease;	
KM	gluten intolerance; T-cell binding; antagonist; transglutaminase;	
KW	transgenic plant; A-gliadin 57-73 Q865.	
XX		
OS	Triticum aestivum.	
XX		
FH	Key	Location/Qualifiers
FT	Misc-difference 1	/label= Lys, Ala
FT		/note= "Optional"
FT	Misc-difference 2	/label= Lys, Ala
FT		/note= "Optional"
FT	Misc-difference 3	/label= Tyr, Trp, Ile, Gly, Ala, Ser, Lys, Pro, Glu
FT		/note= "Optional"
FT	Misc-difference 4	/label= Trp, Tyr, Ile, Ser, Ala, Gly, Glu, Lys
FT		/note= "Optional"
FT	Misc-difference 5	/label= Tyr, Ile, Trp, His, Leu, Ser, Thr, Met, Pro, Glu, Asn, Val, Asp, Ala, Arg, Lys, Glu
FT		/note= "Optional"
FT	Misc-difference 6	/label= Val, Tyr, Trp, Ile, Phe, Thr, Ser, Met, Leu, Glu, Ala, His, Arg, Lys, Gly, Asp, Asn, Glu
FT		/note= "Optional"
FT	Misc-difference 7	/label= Ser, Ile, Met, Leu, Val, His, Phe, Thr, Ala, Tyr, Glu, Asp, Asn, Gly, Trp, Lys, Arg, Pro
FT		/note= "Optional"
FT	Misc-difference 8	/label= Thr, Val, Ala, Ser, Tyr, Arg, Leu, Gly, Asp, Met, Ile, His, Trp, Phe, Asn, Glu, Lys
FT		/note= "Optional"
FT	Misc-difference 9	/label= Asp, Asn, Ala, Ser, Cys, His, Glu-Lys, Val, Gly, Ile, Thr, Glu, Leu, Phe, Met, Trp, Arg, Pro, Lys, Tyr

FT	Misc-difference	10	/note= "Optional"
FT	/label= Met, Pro, Ile, Val, Gln, Phe, Tyr, Thr, Asn, His		
FT	Ser, Trp, Ala, Asp, Gly, Glu, Lys, Arg		
FT	/note= "Optional"		
FT	Misc-difference	11	/label= Ser, Thr, Asn, Leu, Glu, Val, Ala, Asp, Met, Ile,
FT	His, Phe, Gly, Trp, Gln, Arg, Tyr, Lys		
FT	/note= "Optional"		
FT	Misc-difference	12	/label= Val, Trp, Ile, Phe, Ala, Ser, Thr, Leu, Gln, His,
FT	Met, Asp, Gly, Asn, Glu, Arg, Pro, Lys		
FT	/note= "Optional"		
FT	Misc-difference	13	/label= Ser, Thr, Ile, Asn, Tyr, Gly, Val, Ala, Phe, His,
FT	Met, Arg, Trp, Gln, Lys, Leu, Glu, Asp		
FT	/note= "Optional"		
FT	Misc-difference	14	/label= Tyr, Trp, Ser, Ala, Gly, Glu, Ile, Lys, Pro
FT	/note= "Optional"		
FT	Misc-difference	15	/label= Lys, Ala
FT	/note= "Optional"		
FT	Misc-difference	16	/label= Lys, Ala
FT	/note= "Optional"		
FT	Misc-difference	17	/label= Lys, Ala
FT	/note= "Optional"		
FT	Misc-difference	17	/label= Lys, Ala
FT	/note= "Optional"		
EN	WO200125793-A2.		
PD	12-APR-2001.		
PD	02-OCT-2000; 2000WO-GB003760.		
PD	01-OCT-1999; 99GB-00023306.		
XX	(ISIS-) ISIS INNOVATION LTD.		
XX	Anderson RP, Hill AVS, Jewell DP;		
XX	WPI; 2001-300179/31.		
XX	Diagnosing coeliac disease or susceptibility to the disease in an		
XX	individual, by detecting in vitro or in vivo T cells which bind		
XX	immunodominant T cell epitope obtained from naturally occurring homolog		
XX	of gliadin.		
XX	Claim 1; Page 6; 107pp; English.		
XX	The sequence represents wheat A-gliadin immunodominant T-cell epitope, A-		
XX	gliadin 57-73 Q65, where the Glu at a position corresponding to 65 in a		
XX	the full length A-gliadin has been converted to a Glu by the action of a		
XX	transglutaminase. The peptides of the invention are used to test		
XX	transglutaminase (preferably human) susceptibility to coeliac disease (gluten		
XX	intolerance). The peptides are contacted with a blood sample and T cell		
XX	recognition measured, a positive T-cell recognition indicating a		
XX	susceptibility to coeliac disease. The peptides are useful for inducing		
XX	tolerance in an individual and antagonists to the peptides are useful for		
XX	treating or preventing coeliac disease in an individual and for producing		
XX	an antibody specific to them or a wild-type sequence. A mutant gliadin		
XX	protein (or its fragment of 15 amino acids in length) whose wild-type		
XX	sequence can be modified by transglutaminase to a sequence that comprises		
XX	the epitope, but which has been modified in such a way that it does not		
XX	contain sequence which can be modified by transglutaminase to a sequence		
XX	that comprise the epitope is useful for decreasing the ability of gliadin		
XX	protein to cause Coeliac disease. Nucleic acids encoding proteins		
XX	antagonistic to the T-cell binding of the epitopes are useful for		
XX	obtaining a transgenic plant cell or seed and for the production of a		
XX	protein. The resultant crop plant is useful for obtaining a product of a		
XX	wheat plant, especially grain, which is optionally processed into flour		
XX	or another grain product. Food comprising the antagonistic protein is		

CC	useful instead of a wild-type gliadin
XX	
sq	Sequence 17 AA;

Query Match	100.0%;	Score 97;	DB 4;	Length 17;
Best Local Similarity	100.0%;	Pred. No. 1.1e-05;		
Matches 17;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;

OY	1 QLOPFQPELPYPQPQS 17
Dd	1 QLQPFQPELPYPQPQS 17

RESULT 2  
ADH1A512

ID	ADH14512	standard; peptide; 17 AA.
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AC ADH14512;

DT 11-MAR-2004 (first entry)

DE Gliadin related epitope peptide SEQ ID NO:2.

KM coeliac disease; gliadin T cell epitope; gastrointestinal;

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41 MURKINSON RE, WILL AVE, CLEVELAND OH,  
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DR WFL: 2004-043640/04-  
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PT which are wheat gliadin T cell epitopes capable of being recognized by T preventing or treating coeliac disease comprises administering agent

cell receptor.

XX  
ES  
Claim 1; SEQ ID NO 2; 177pp; English.

CC The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a

CC gliadin T cell epitope, which is capable of being recognised by a T cell receptor, to an individual. Gliadin is a component of gluten (4) has

gastrointestinal activity, and can be used in vaccines. The agent (A) can be used in the preparation of a medicament for treating or preventing

coeliac disease. (A) can also be used in the preparation of a diagnostic means for use in diagnosing coeliac disease or susceptibility to coeliac

CC disease, in an individual, which involves determining whether T cells of the individual recognise the agent recognition by the T cells indicating

CC that the individual has, or is susceptible to, coeliac disease. The  
CC present someone represents a condition which is used in the

CC exemplification of the present invention.  
VV

SQ Sequence 17 AA;

Query Match	100.0%; Score 97; DB 8; Length 17;
-------------	------------------------------------

Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPPQPELPPQPS 17

Db 1 QLOPFPPQPELPPYPQS 17

## RESULT 3

ADH14635 standard; peptide; 17 AA.

ADH14635;

11-MAR-2004 (first entry)

Gliadin related epitope peptide.

coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

vaccine.

Synthetic.

WO2003104273-A2.

18-DEC-2003.

05-JUN-2003; 2003WO-GB002450.

05-JUN-2002; 2002GB-00012885.

(ISIS-) ISIS INNOVATION LTD.

Anderson RP, Hill AVS, Jewell DP;

WPI; 2004-043640/04.

Preventing or treating coeliac disease comprises administering agent

PT which are wheat gliadin T cell epitope capable of being recognized by T

cell receptor.

Example 2; Page 79; 177pp; English.

CC The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor. To an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.

Sequence 17 AA:

Query Match 100.0%; Score 97; DB 8; Length 17;

Best Local Similarity 100.0%; Pred. No. 1.1e-05; Mismatches 0; Indels 0; Gaps 0;

Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 QLOPFPQPELPYPOPOS 17

1 QLOPFPQPELPYPOPOS 17

ADH16210 standard; peptide; 17 AA.

ADH16210;

11-MAR-2004 (first entry)

Gliadin related epitope peptide.

coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

vaccine.

OS Synthetic.

WO2003104273-A2.

18-DEC-2003.

05-JUN-2003; 2003WO-GB002450.

05-JUN-2002; 2002GB-00012885.

(ISIS-) ISIS INNOVATION LTD.

Anderson RP, Hill AVS, Jewell DP;

WPI; 2004-043640/04.

Preventing or treating coeliac disease comprises administering agent

PT which are wheat gliadin T cell epitope capable of being recognized by T

cell receptor.

Example 10; Fig 17; 177pp; English.

CC The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor. To an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.

Sequence 17 AA:

Query Match 100.0%; Score 97; DB 8; Length 17;

Best Local Similarity 100.0%; Pred. No. 1.1e-05; Mismatches 0; Indels 0; Gaps 0;

Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 QLOPFPQPELPYPOPOS 17

1 QLOPFPQPELPYPOPOS 17

ADH16182 standard; peptide; 17 AA.

ADH16182;

11-MAR-2004 (first entry)

Gliadin related epitope peptide.

coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

vaccine.

Synthetic.

WO2003104273-A2.

18-DEC-2003.

05-JUN-2003; 2003WO-GB002450.

05-JUN-2002; 2002GB-00012885.

(ISIS-) ISIS INNOVATION LTD.

Anderson RP, Hill AVS, Jewell DP;

XX WPI, 2004-043640/04.  
XX Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.  
XX  
XX Example 6; Fig 12a; 177pp; English.  
XX  
XX The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.  
XX  
XX Sequence 17 AA;  
XX  
XX Query Match 100.0%; Score 97; DB 8; Length 17;  
XX Best Local Similarity 100.0%; Pred. No. 1,1e-05;  
XX Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
XX  
XX 1 QLOPFPQPELPYPOPOS 17  
XX 1 QLOPFPQPELPYPOPOS 17  
XX  
XX RESULT 6  
XX ADH14557  
XX ID ADH14557 standard; peptide; 17 AA.  
XX  
XX ADH14557;  
XX  
XX 11-MAR-2004 (first entry)  
XX  
XX Gliadin related epitope peptide.  
XX  
XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
XX vaccine.  
XX  
XX Synthetic.  
XX  
XX WO2003104273-A2.  
XX  
XX 18-DEC-2003.  
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XX 05-JUN-2003; 2003WO-GB002450.  
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XX 05-JUN-2002; 2002GB-00012885.  
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XX (ISIS-) ISIS INNOVATION LTD.  
XX  
XX Anderson RP, Hill AVS, Jewell DP;  
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XX WPI; 2004-043640/04.  
XX  
XX Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.  
XX  
XX Example 14; Page 65; 177pp; English.  
XX  
XX The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.  
XX  
XX Sequence 17 AA;  
XX  
XX Query Match 100.0%; Score 97; DB 8; Length 17;

CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.  
XX  
XX Sequence 17 AA;  
XX  
XX Query Match 100.0%; Score 97; DB 8; Length 17;  
XX  
XX Best Local Similarity 100.0%; Pred. No. 1,1e-05;  
XX Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
XX  
XX 1 QLOPFPQPELPYPOPOS 17  
XX 1 QLOPFPQPELPYPOPOS 17  
XX  
XX RESULT 7  
XX ADH14653  
XX ID ADH14653 standard; peptide; 17 AA.  
XX  
XX ADH14653;  
XX  
XX 11-MAR-2004 (first entry)  
XX  
XX Gliadin related epitope peptide.  
XX  
XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
XX vaccine.  
XX  
XX Synthetic.  
XX  
XX WO2003104273-A2.  
XX  
XX 18-DEC-2003.  
XX  
XX 05-JUN-2003; 2003WO-GB002450.  
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XX 05-JUN-2002; 2002GB-00012885.  
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XX (ISIS-) ISIS INNOVATION LTD.  
XX  
XX Anderson RP, Hill AVS, Jewell DP;  
XX  
XX WPI, 2004-043640/04.  
XX  
XX Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.  
XX  
XX Example 6; Page 80; 177pp; English.  
XX  
XX The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.  
XX  
XX Sequence 17 AA;  
XX  
XX Query Match 100.0%; Score 97; DB 8; Length 17;

Best Local Similarity 100.0%; Pred. No. 1.1e-05;  
Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPQPOS 17  
| | | | | | | | | | | | | | | | | | | | | |  
Db 1 QLOPFPQPELPYPQPOS 17

## RESULT 8

ADH14633  
ID ADH14633 standard; peptide; 17 AA.

AC ADH14633;

DT 11-MAR-2004 (first entry)

DE Gliadin related epitope peptide.

KM coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

KW vaccine.

OS Synthetic.

PN WO2003104273-A2.

PD 18-DEC-2003.

PF 05-JUN-2003; 2003WO-GB002450.

PR 05-JUN-2002; 2002GB-00012885.

PA (ISIS-) ISIS INNOVATION LTD.

PI Anderson RP, Hill AVS, Jewell DP,

DR WPI; 2004-043640/04.

PT Preventing or treating coeliac disease comprises administering agent

PT which are wheat gliadin T cell epitope capable of being recognized by T

PT cell receptor.

XX Example 15; Page 75; 177pp; English.

CC The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.

XX Sequence 17 AA;

Query Match 100.0%; Score 97; DB 8; Length 17;

Best Local Similarity 100.0%; Pred. No. 1.1e-05;  
Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPQPOS 17  
| | | | | | | | | | | | | | | | | | | | | |  
Db 1 QLOPFPQPELPYPQPOS 17

## RESULT 9

ADH14558  
ID ADH14558 standard; peptide; 17 AA.

AC ADH14558;

XX 11-MAR-2004 (first entry)

DT Gliadin related epitope peptide.

DE coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

KW vaccine.

OS Synthetic.

PN WO2003104273-A2.

PD 18-DEC-2003.

PF 05-JUN-2003; 2003WO-GB002450.

PR 05-JUN-2002; 2002GB-00012885.

PA (ISIS-) ISIS INNOVATION LTD.

PI Anderson RP, Hill AVS, Jewell DP,

DR WPI; 2004-043640/04.

PT Preventing or treating coeliac disease comprises administering agent

PT which are wheat gliadin T cell epitope capable of being recognized by T

PT cell receptor.

XX Example 14; Page 66; 177pp; English.

CC The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.

XX Sequence 17 AA;

Query Match 100.0%; Score 97; DB 8; Length 17;

Best Local Similarity 100.0%; Pred. No. 1.1e-05;  
Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPQPOS 17  
| | | | | | | | | | | | | | | | | | | | | |  
Db 1 QLOPFPQPELPYPQPOS 17

## RESULT 10

ADH14575  
ID ADH14575 standard; peptide; 17 AA.

AC ADH14575;

DT 11-MAR-2004 (first entry)

DE Gliadin related epitope peptide.

KM coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

KW vaccine.

OS Synthetic.

PN WO2003104273-A2.

PD 18-DEC-2003.

```

XX 05-JUN-2003; 2003MO-GB002450.
PE
XX
XX 05-JUN-2002; 2002GB-00012895.
BR
XX
XX (ISIS-) ISIS INNOVATION LTD.
PA
XX
XX Anderson RP, Hill AVS, Jewell DP;
PI
XX
XX WPI: 2004-043640/04.
DR
XX
PT Preventing or treating coeliac disease comprises administering agent
PT which are wheat gliadin T cell epitope capable of being recognized by T
PR cell receptor.
XX
PS Example 14; Page 71; 177pp; English.
XX
XX The present invention describes a method (M1) for preventing or treating
GG coeliac disease. M1 comprises administering an agent (A) comprising a
GG gliadin T cell epitope, which is capable of being recognised by a T cell
GG receptor, to an individual. Gliadin is a component of gluten. (A) has
GG gastrointestinal activity, and can be used in vaccines. The agent (A) can
GG be used in the preparation of a medicament for treating or preventing
GG coeliac disease. (A) can also be used in the preparation of a diagnostic
GG means for use in diagnosing coeliac disease, or susceptibility to coeliac
GG disease, in an individual, which involves determining whether T cells of
GG the individual recognise the agent, recognition by the T cells indicating
GG that the individual has, or is susceptible to, coeliac disease. The
GG present sequence represents a peptide which is used in the
GG exemplification of the present invention.
XX
XX Sequence 17 AA:
GG
GG Query Match          100.0%; Score 97; DB 8; Length 17;
GG Best Local Similarity 100.0%; Pred. No. 1.1e-05;
Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0.
GY      1 QLOPFQPELPFPQPQS 17
GB      1 QLOPFQPELPFPQPQS 17
RESULT 11
AAU01807
ID AU01807 standard; peptide; 20 AA.
XX
XX AAU01807;
AC
XX 07-SEP-2001 (first entry)
PT
XX Wheat A-gliadin 56-75 transglutaminase treated peptide.
DE
XX Wheat; A-gliadin; 56-75 peptide; coeliac disease; gluten intolerance;
FM T-cell binding; antagonist; transglutaminase; transgenic plant.
XX
XX Triticum aestivum.
OS
XX MO200125793-A2.
EN
XX 12-APR-2001.
PD
XX
PE 02-OCT-2000; 2000WO-GB003760.
PP
XX 01-OCT-1999; 99GB-00023306.
ER
XX (ISIS-) ISIS INNOVATION LTD.
PA
XX Anderson RP, Hill AVS, Jewell DP;
PI
XX
XX WPI: 2001-300179/31.
DE
XX
XX Diagnosing coeliac disease or susceptibility to the disease in an
PT individual, by detecting in vitro or in vivo T cells which bind

```

PT	immunodominant T cell epitope obtained from naturally occurring homolog of gliadin.
PS	Example 3; Page 40; 107pp; English.
XX	The sequence represents wheat A-gliadin 56-75 peptide, which has been
CC	treated with transglutaminase resulting in the Gln at position
CC	corresponding to 65 in the full length A-gliadin being converted Glu. The
CC	peptides of the invention are used to test mammalian (preferably human)
CC	susceptibility to coeliac disease (gluten intolerance). The peptides are
CC	contacted with a blood sample and T cell recognition measured, a positive
CC	T-cell recognition indicating a susceptibility to coeliac disease. The
CC	antagonists are useful for inducing tolerance in an individual and
CC	disease in an individual and for producing an antibody specific to them
CC	or a wild-type sequence. A mutant gliadin protein (or its fragment of 15
CC	amino acids in length) whose wild-type sequence can be modified by
CC	transglutaminase to a sequence that comprises the epitope, but which has
CC	been modified in such a way that it does not contain sequence which can
CC	be modified by transglutaminase to a sequence that comprise the epitope
CC	is useful for decreasing the ability of gliadin protein to cause Coeliac
CC	disease. Nucleic acids encoding proteins antagonistic to the T-cell
CC	binding of the epitopes are useful for obtaining a transgenic plant cell
CC	or seed and for the production of a protein. The resultant crop plant is
CC	useful for obtaining a product of a wheat plant, especially grain, which
CC	is optionally processed into flour or another grain product. Food
CC	comprising the antagonistic protein is useful instead of a wild-type
CC	gliadin
XX	
SQ	Sequence 20 AA:
Query Match	100.0%; Score 97; DB 4; Length 20;
Best Local Similarity	100.0%; Pred. NO. 1.3e-05;
Matches 17; Conservative	0; Mismatches 0; Indels 0; Gaps 0;
QY	1 QLOPPQPELPYQPOQS 17
DB	2 QLOPPQPELPYQPOQS 18
RESULT 12	
ID	ADH14521
XX	ADH14521 standard; peptide; 20 AA.
XX	ADH14521;
XX	11-MAR-2004 (first entry)
DE	Gliadin related epitope peptide SEQ ID NO:11.
XX	coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;
KM	vaccine.
XX	Synthetic.
OS	WO2003104273-A2.
XX	18-DEC-2003.
XX	05-JUN-2003; 2003WO-GB002450.
XX	05-JUN-2002; 2002GB-00012885.
XX	(ISIS-) ISIS INNOVATION LTD.
XX	Anderson RP, Hill AVS, Jewell DP;
XX	WPI; 2004-043640/04.
XX	Preventing or treating coeliac disease comprises administering agent
XX	which are wheat gliadin T cell epitope capable of being recognized by T
XX	cell receptor.

PS Example 4; SEQ ID NO 11; 177pp; English.

CC The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.

CC Sequence 20 AA;

Query Match 100.0%; Score 97; DB 8; Length 20;  
Best Local Similarity 100.0%; Pred. No. 1.3e-05;  
Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 QLOPFPQPELPYPOPOS 17  
Db 2 QLOPFPQPELPYPOPOS 18

#### RESULT 13

AAU01803  
ID AAU01803 standard; protein; 17 AA.

AC AAU01803;

DT 07-SEP-2001 (first entry)

DE Wheat A-gliadin 57-73, E65, 72 mutant peptide.

KM Wheat; A-gliadin; E65, 72; coeliac disease; gluten intolerance;  
KM T-cell binding; antagonist; transglutaminase; transgenic plant; mutein.

OS Triticum aestivum.

PN WO200125793-A2.

PD 12-APR-2001.

PF 02-OCT-2000; 2000WO-GB003760.

PR 01-OCT-1999; 99GB-00023306.

PA (ISIS-) ISIS INNOVATION LTD.

PI Anderson RP, Hill AVS, Jewell DP;

DR WPI; 2001-300179/31.

PT Diagnosing coeliac disease or susceptibility to the disease in an  
PT individual, by detecting in vitro or in vivo T cells which bind  
PT immunodominant T cell epitope obtained from naturally occurring homolog  
PT of gliadin.

PS Disclosure; Page 4; 107pp; English.

CC The sequence represents wheat A-gliadin T-cell epitope E65, 72, which has  
CC Gln substituted with Glu at positions corresponding to 65 and 72 of the  
CC full length A-gliadin. The peptides of the invention are used to test  
CC mammalian (preferably human) susceptibility to coeliac disease (gluten  
CC intolerance). The peptides are contacted with a blood sample and T cell  
CC recognition measured, a positive T-cell recognition indicating a  
CC susceptibility to coeliac disease. The peptides are useful for inducing  
CC tolerance in an individual and antagonists to the peptides are useful for  
CC treating or preventing coeliac disease in an individual and for producing  
CC an antibody specific to them or a wild-type sequence. A mutant gliadin

CC protein (or its fragment of 15 amino acids in length) whose wild-type  
CC sequence can be modified by transglutaminase to a sequence that comprises  
CC the epitope, but which has been modified in such a way that it does not  
CC contain sequence which can be modified by transglutaminase to a sequence  
CC that comprise the epitope is useful for decreasing the ability of gliadin  
CC protein to cause Coeliac disease. Nucleic acids encoding proteins  
CC antagonistic to the T-cell binding of the epitopes are useful for  
CC obtaining a transgenic plant cell or seed and for the production of a  
CC protein. The resultant crop plant is useful for obtaining a product of a  
CC wheat plant, especially grain, which is optionally processed into flour  
CC or another grain product. Food comprising the antagonistic protein is  
CC useful instead of a wild-type gliadin

CC Sequence 17 AA;

Query Match 96.9%; Score 94; DB 4; Length 17;  
Best Local Similarity 94.1%; Pred. No. 2.6e-05;  
Matches 16; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 1 QLOPFPQPELPYPOPOS 17  
Db 1 QLOPFPQPELPYPOPOS 17

#### RESULT 14

AAU01802  
ID AAU01802 standard; protein; 17 AA.

AC AAU01802;

DT 07-SEP-2001 (first entry)

DE Wheat A-gliadin 57-73, E57, 65 mutant peptide.

KM Wheat; A-gliadin; E57, 65; coeliac disease; gluten intolerance;  
KM T-cell binding; antagonist; transglutaminase; transgenic plant; mutein.

OS Triticum aestivum.

PN WO200125793-A2.

PD 12-APR-2001.

PF 02-OCT-2000; 2000WO-GB003760.

PR 01-OCT-1999; 99GB-00023306.

PA (ISIS-) ISIS INNOVATION LTD.

PI Anderson RP, Hill AVS, Jewell DP;

DR WPI; 2001-300179/31.

PT Diagnosing coeliac disease or susceptibility to the disease in an  
PT individual, by detecting in vitro or in vivo T cells which bind  
PT immunodominant T cell epitope obtained from naturally occurring homolog  
PT of gliadin.

PS Disclosure; Page 4; 107pp; English.

CC The sequence represents wheat A-gliadin T-cell epitope E57, 65, which has  
CC Gln substituted with Glu at positions corresponding to 57 and 65 of the  
CC full length A-gliadin. The peptides of the invention are used to test  
CC mammalian (preferably human) susceptibility to coeliac disease (gluten  
CC intolerance). The peptides are contacted with a blood sample and T cell  
CC recognition measured, a positive T-cell recognition indicating a  
CC susceptibility to coeliac disease. The peptides are useful for inducing  
CC tolerance in an individual and antagonists to the peptides are useful for  
CC treating or preventing coeliac disease in an individual and for producing  
CC an antibody specific to them or a wild-type sequence. A mutant gliadin  
CC protein (or its fragment of 15 amino acids in length) whose wild-type  
CC sequence can be modified by transglutaminase to a sequence that comprises  
CC the epitope, but which has been modified in such a way that it does not

CC contain sequence which can be modified by transglutaminase to a sequence  
 CC that comprise the epitope is useful for decreasing the ability of gliadin  
 CC protein to cause Coeliac disease. Nucleic acids encoding proteins  
 CC antagonistic to the T-cell binding of the epitopes are useful for  
 CC obtaining a transgenic plant cell or seed and for the production of a  
 CC protein. The resultant crop plant is useful for obtaining a product of a  
 CC wheat plant, especially grain, which is optionally processed into flour  
 CC or another grain product. Food comprising the antagonistic protein is  
 CC useful instead of a wild-type gliadin

XX Sequence 17 AA;

Query Match 96.9%; Score 94; DB 4; Length 17;  
 Best Local Similarity 94.1%; Pred. No. 2.6e-05;  
 Matches 16; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLQFPQPQLPYPPQPS 17  
 DB 1 QLQFPQPQLPYPPQPS 17

RESULT 15

AAU01806 standard; peptide; 17 AA.

AAU01806;

07-SEP-2001 (first entry)

Wheat A-gliadin 57-73 peptide.

Wheat; A-gliadin; 57-73 peptide; coeliac disease; gluten intolerance;

T-cell binding; antagonist; transglutaminase; transgenic plant.

Triticum aestivum.

WO200125793-A2.

12-APR-2001.

02-OCT-2000; 2000WO-GB003760.

01-OCT-1999; 99GB-00023306.

(ISIS-) ISIS INNOVATION LTD.

Anderson RP, Hill AVS, Jewell DP;

WPI, 2001-300179/31.

Diagnosing coeliac disease or susceptibility to the disease in an  
 individual, by detecting in vitro or in vivo T cells which bind  
 immunodominant T cell epitope obtained from naturally occurring homolog  
 of gliadin.

Example 1; Fig 12c; 107bp; English.

The sequence represents wheat A-gliadin 57-73 peptide. The peptides of  
 the invention are used to test mammalian (preferably human)  
 susceptibility to coeliac disease (gluten intolerance). The peptides are  
 contacted with a blood sample and T cell recognition measured, a positive  
 T-cell recognition indicating a susceptibility to coeliac disease. The  
 peptides are useful for inducing tolerance in an individual and  
 antagonists to the peptides are useful for treating or preventing coeliac  
 disease in an individual and for producing an antibody specific to them  
 or a wild-type sequence. A mutant gliadin protein (or its fragment of 15  
 amino acids in length) whose wild-type sequence can be modified by  
 transglutaminase to a sequence that comprises the epitope, but which has  
 been modified in such a way that it does not contain sequence which can  
 be modified by transglutaminase to a sequence that comprises the epitope  
 is useful for decreasing the ability of gliadin protein to cause Coeliac  
 disease. Nucleic acids encoding proteins antagonistic to the T-cell  
 binding of the epitopes are useful for obtaining a transgenic plant cell

CC or seed and for the production of a protein. The resultant crop plant is  
 CC useful for obtaining a product of a wheat plant, especially grain, which  
 CC is optionally processed into flour or another grain product. Food  
 CC comprising the antagonistic protein is useful instead of a wild-type  
 CC gliadin

XX Sequence 17 AA;

Query Match 96.9%; Score 94; DB 4; Length 17;  
 Best Local Similarity 94.1%; Pred. No. 2.6e-05;  
 Matches 16; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLQFPQPQLPYPPQPS 17  
 DB 1 QLQFPQPQLPYPPQPS 17

Search completed: December 14, 2004, 16:59:56  
 Job time : 162.5 secs



PI Khosla C, Hauesch F, Parrot I, Shan L;  
DR WPI; 2004-098857/10.  
PX  
PT Method useful for treatment of celiac sprue and/or dermatitis  
PT herpeticiformis involves the use of tissue transglutaminase (tTGase)  
PT inhibitor to attenuate gluten toxicity.  
XX  
XX Disclosure; page 8; 37pp; English.  
XX  
XX The invention relates to a method for the treatment of celiac sprue  
CC and/or dermatitis herpeticiformis, involving the administration of tissue  
CC transglutaminase (tTGase) inhibitor to attenuate gluten toxicity in the  
CC patient. The method of the invention is useful for the treatment of  
CC celiac sprue and dermatitis herpeticiformis, or for the treatment of a  
CC disorder where tissue transglutaminase is a factor in disease etiology,  
CC such as a neurological disorder, cancer or wound healing. The method of  
CC the invention is also useful in the treatment of progressive supranuclear  
CC palsy, Huntington's, Alzheimer's and Parkinson's diseases, the aberrant  
CC activation of tTGases may be caused by oxidative stress and inflammation.  
CC The formulation reduces the toxic effects of toxic gluten oligopeptides,  
CC thus attenuating or eliminates the damaging effects of gluten. The  
CC formulation allows or eliminates the celiac sprue individual to eat gluten-containing  
CC foodstuffs without ill effect, or at least to tolerate such foodstuffs in  
CC small or moderate quantities without inducing relapse. The current  
CC sequence represents a high affinity peptide substrate for tTGase that  
CC acts as a glutenase resistant peptide.  
XX  
XX Sequence 7 AA;  
SQ  
Query Match 100.0%; Score 42; DB 8; Length 7;  
Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0  
CY 1 POPELPY 7  
DB 1 POPELPY 7  
RESULT 4  
ID ADH14511 standard; peptide; 7 AA.  
AC ADH14511;  
XX  
XX 11-MAR-2004 (first entry)  
DT  
DE Gliadin related epitope peptide SEQ ID NO:1.  
XX  
XX coeliac disease; gliadin, gliadin T cell epitope; gastrointestinal;  
KM vaccine.  
XX  
XX Synthetic.  
OS  
XX WO2003104273-A2.  
PN  
XX 18-DEC-2003.  
PD  
XX  
XX 05-JUN-2003; 2003WO-GB002450.  
PF  
XX 05-JUN-2002; 2002GB-00012885.  
PR  
XX (ISIS-) ISIS INNOVATION LTD.  
PA  
XX Anderson RP, Hill AVS, Jewell DP;  
PI  
XX WPI; 2004-043640/04.  
DR  
XX Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.  
XX  
XX Claim 1; SEQ ID NO 1, 177pp; English.

The present invention describes a method (M1) for preventing or treating coeliac disease. M1 comprises administering an agent (A) comprising a gliadin T cell epitope, which is capable of being recognised by a T cell receptor, to an individual. Gliadin is a component of gluten. The agent (A) can be used in the preparation of a medicament for treating or preventing coeliac disease. (A) can also be used in the preparation of a diagnostic means for use in diagnosing coeliac disease, or susceptibility to coeliac disease, in an individual, which involves determining whether T cells of the individual recognise the agent, recognition by the T cells indicating that the individual has, or is susceptible to, coeliac disease. The present sequence represents a peptide which is used in the exemplification of the present invention.

Sequence 7 AA:

Query Match	100.0%	Score 42;	DB 8;	Length 7;
Best Local Similarity	100.0%;	Pred. No. 1,7e+06;		
Matches	7;	Conservative	0;	Mismatches 0; Indels 0; Gaps 0;

          1 POPELPPY 7  
          |||||  
Db        1 POPELPPY 7

RESULT 5  
ADFP91460  
ID      ADFP91460 standard; peptide; 9 AA.  
XX  
XX      ADFP91460;  
XX  
DT      26-FEB-2004 (first entry)  
XX  
XX  
XX      T-cell epitope peptide.  
XX  
XX      Dermatological; antidiabetic; gene therapy; HLA; inhibitor; immunogenic;  
KW      gluten; Celiac Sprue; dermatitis herpetiformis; HLA-DQ2 positive;  
KM      type I diabetes; protein co-ordinate date.  
XX  
OS      Synthetic.  
XX  
PN      WO2003096984-A2.  
XX  
PD      27-NOV-2003.  
XX  
PF      14-MAY-2003; 2003WO-US015506.  
XX  
PR      14-MAY-2002; 2002US-0380761P.  
PR      28-JUN-2002; 2002US-0392782P.  
PR      31-OCT-2002; 2002US-0422933P.  
PR      20-NOV-2002; 2002US-0428033P.  
XX  
PA      (STRD ) UNIV DELAND STANFORD JUNIOR.  
PA      (SOLL/) SOLLID L M.  
PA      (HAUS/) HAUSCH F.  
PA      (SHAN/) SHAN L.  
PA      (KHOS/) KHOSLA C.  
PA      (QUAR/) QUARSTEN H.  
XX  
PI      Solid LM, Hausch F, Shan L, Khosla C, Quarsten H, Gray G;  
PI      Kim C;  
DR  
WPI; 2004-053078/05.  
XX  
PT      New HLA-binding peptide inhibitor that is an analog of an immunogenic  
PT      gluten oligopeptide, useful for preparing a composition for treating  
PT      e.g., Celiac Sprue or dermatitis herpetiformis.  
XX  
PS  
PS      Claim 5; Page 112; 115pp; English.  
CC  
CC      The invention relates to a new HLA-binding peptide inhibitor, which is an  
CC      analog of an immunogenic gluten oligopeptide of at least about 8 residues

*best choice*

CC in length, altered by the replacement of one or more amino acids and that  
 CC binds tightly to HLA molecules, and is proteolytically stable and does  
 CC not activate disease-specific T cells. Also disclosed is a computer for  
 CC producing a three-dimensional representation of an HLA-DQ2 molecule bound  
 CC to an immunogenic gluten oligopeptide. The HLA-binding peptide inhibitor  
 CC comprises the sequence PXPPELPY. The HLA-binding peptide inhibitor is  
 CC useful for preparing a composition for treating Celiac Sprue or  
 CC dermatitis herpetiformis, or HLA-DQ2 positive individuals who are either  
 CC predisposed to or have developed symptoms of type I diabetes. The current  
 CC sequence represents an immunogenic gluten oligopeptide fragment that may  
 CC be modified to generate an HLA-binding peptide inhibitor. This particular  
 CC peptide represents a T-cell epitope that forms part of the 33-mer  
 CC immunogenic gluten peptide given in ADF91457.

SC Sequence 9 AA;

Query Match 100.0%; Score 42; DB 8; Length 9;  
 Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PXPPELPY 7  
 |||||  
 DB 3 PXPPELPY 9

RESULT 6

ADP91462  
 ID ADF91462 standard; peptide; 9 AA.

AC ADF91462;

DE 26-FEB-2004 (first entry)

DB T-cell epitope peptide.

XX Dermatological; antidiabetic; gene therapy; HLA; inhibitor; immunogenic;

KW gluten; Celiac Sprue; dermatitis herpetiformis; HLA-DQ2 positive;

XX type I diabetes; protein co-ordinate data.

OS Synthetic.

PN WO2003096984-A2.

PD 27-NOV-2003.

PE 14-MAY-2003; 2003WO-US015506.

PR 14-MAY-2002; 2002US-0380761P.

PR 28-JUN-2002; 2002US-0392782P.

PR 31-OCT-2002; 2002US-0422933P.

PR 20-NOV-2002; 2002US-0428033P.

PA (STRD ) UNIV LELAND STANFORD JUNIOR.

PA (SOLL/) SOLID L M.

PA (HAUS/) HAUSCH F.

PA (SHAN/) SHAN L.

PA (KHOS/) KHOSLA C.

PA (QUAR/) QUARSTEN H.

PI SOLID LM, Hausch F, Shan L, Khosla C, Quarsten H, Gray G;

PI Kim C;

DR WPI; 2004-053078/05.

XX New HLA-binding peptide inhibitor that is an analog of an immunogenic

PT gluten oligopeptide, useful for preparing a composition for treating

XX e.g., Celiac Sprue or dermatitis herpetiformis.

*best data*

CC binds tightly to HLA molecules, and is proteolytically stable and does  
 CC not activate disease-specific T cells. Also disclosed is a computer for  
 CC producing a three-dimensional representation of an HLA-DQ2 molecule bound  
 CC to an immunogenic gluten oligopeptide. The HLA-binding peptide inhibitor  
 CC comprises the sequence PXPPELPY. The HLA-binding peptide inhibitor is  
 CC useful for preparing a composition for treating Celiac Sprue or  
 CC dermatitis herpetiformis, or HLA-DQ2 positive individuals who are either  
 CC predisposed to or have developed symptoms of type I diabetes. The current  
 CC sequence represents an immunogenic gluten oligopeptide fragment that may  
 CC be modified to generate an HLA-binding peptide inhibitor. This particular  
 CC peptide represents a T-cell epitope that forms part of the 33-mer  
 CC immunogenic gluten peptide given in ADF91457.

SC Sequence 9 AA;

Query Match 100.0%; Score 42; DB 8; Length 9;  
 Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PXPPELPY 7  
 |||||  
 DB 3 PXPPELPY 9

RESULT 7

ADP91464  
 ID ADF91464 standard; peptide; 9 AA.

AC ADF91464;

DE 26-FEB-2004 (first entry)

DB Immunogenic gluten oligopeptide.

XX Dermatological; antidiabetic; gene therapy; HLA; inhibitor; immunogenic;

KW gluten; Celiac Sprue; dermatitis herpetiformis; HLA-DQ2 positive;

XX type I diabetes; protein co-ordinate data.

OS Synthetic.

PN WO2003096984-A2.

PD 27-NOV-2003.

PE 14-MAY-2003; 2003WO-US015506.

PR 14-MAY-2002; 2002US-0380761P.

PR 28-JUN-2002; 2002US-0392782P.

PR 31-OCT-2002; 2002US-0422933P.

PR 20-NOV-2002; 2002US-0428033P.

PA (STRD ) UNIV LELAND STANFORD JUNIOR.

PA (SOLL/) SOLID L M.

PA (HAUS/) HAUSCH F.

PA (SHAN/) SHAN L.

PA (KHOS/) KHOSLA C.

PA (QUAR/) QUARSTEN H.

PI SOLID LM, Hausch F, Shan L, Khosla C, Quarsten H, Gray G;

PI Kim C;

DR WPI; 2004-053078/05.

XX New HLA-binding peptide inhibitor that is an analog of an immunogenic

PT gluten oligopeptide, useful for preparing a composition for treating

XX e.g., Celiac Sprue or dermatitis herpetiformis.

*best data*

Location/Qualifiers  
 2  
 /note= "X is Tyr, Trp, Arg, Lys, p-Iodo-Phe, p-Iodo-Tyr,  
 P-amino-Phe, 3-amino-Tyr, hydroxylysine, ornithine, Asp,  
 Glu"

PS Claim 6; Page 112; 115pp; English.  
XX  
CC The invention relates to a new HLA-binding peptide inhibitor, which is an  
CC analog of an immunogenic gluten oligopeptide of at least about 8 residues  
CC in length, altered by the replacement of one or more amino acids and that  
CC binds tightly to HLA molecules, and is proteolytically stable and does  
CC not activate disease-specific T cells. Also disclosed is a computer for  
CC producing a three-dimensional representation of an HLA-DQ2 molecule bound  
CC to an immunogenic gluten oligopeptide. The HLA-binding peptide inhibitor  
CC comprises the sequence PQLPELPY. The HLA-binding peptide inhibitor is  
CC useful for preparing a composition for treating Celiac Sprue or  
CC dermatitis herpetiformis, or HLA-DQ2 positive individuals who are either  
CC predisposed to or have developed symptoms of type I diabetes. The current  
CC sequence represents an immunogenic gluten oligopeptide that may be  
CC modified to generate an HLA-binding peptide inhibitor.  
XX

SQ Sequence 9 AA;

Query Match 100.0%; Score 42; DB 8; Length 9;  
Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 PQLPELPY 7  
|||  
Db 3 PQLPELPY 9

RESULT 8

ADP91461  
ID ADP91461 standard; peptide; 9 AA.

XX ADP91461;

XX 26-FEB-2004 (first entry)

XX T-cell epitope peptide.

XX Dermatological; antidiabetic; gene therapy; HLA; inhibitor; immunogenic;  
XX gluten; Celiac Sprue; dermatitis herpetiformis; HLA-DQ2 positive;

XX type I diabetes; protein co-ordinate data.

XX Synthetic.

XX WO2003096984-A2.

XX 27-NOV-2003.

XX 14-MAY-2003; 2003WO-US015506.

XX 14-MAY-2002; 2002US-0380761P.

XX 28-JUN-2002; 2002US-0392782P.

XX 31-OCT-2002; 2002US-0422933P.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX (SOLL/) SOLID L M.

XX (HAUS/) HAUSCH F.

XX (SHAN/) SHAN L. C.

XX (KHOS/) KHOSLA C.

XX (QUR/) QURSTEN H.

XX Solid LM, Hausch F, Shan L, Khosla C, Qursten H, Gray G;  
XX Kim C;

XX WPI, 2004-053078/05.

XX New HLA-binding peptide inhibitor that is an analog of an immunogenic  
XX PT gluten oligopeptide, useful for preparing a composition for treating  
XX PT e.g., Celiac Sprue or dermatitis herpetiformis.  
XX PS Disclosure; Page 7; 115pp; English.  
XX The invention relates to a new HLA-binding peptide inhibitor, which is an

CC analog of an immunogenic gluten oligopeptide of at least about 8 residues  
CC in length, altered by the replacement of one or more amino acids and that  
CC binds tightly to HLA molecules, and is proteolytically stable and does  
CC not activate disease-specific T cells. Also disclosed is a computer for  
CC producing a three-dimensional representation of an HLA-DQ2 molecule bound  
CC to an immunogenic gluten oligopeptide. The HLA-binding peptide inhibitor  
CC comprises the sequence PQLPELPY. The HLA-binding peptide inhibitor is  
CC useful for preparing a composition for treating Celiac Sprue or  
CC dermatitis herpetiformis, or HLA-DQ2 positive individuals who are either  
CC predisposed to or have developed symptoms of type I diabetes. The current  
CC sequence represents an immunogenic gluten oligopeptide fragment that may  
CC be modified to generate an HLA-binding peptide inhibitor. This particular  
CC peptide represents a T-cell epitope that forms part of the 33-mer  
XX immunogenic gluten peptide given in ADP91457.

SQ Sequence 9 AA;

Query Match 100.0%; Score 42; DB 8; Length 9;  
Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 PQLPELPY 7  
|||  
Db 1 PQLPELPY 7

RESULT 9

ADP19619  
ID ADP19619 standard; peptide; 9 AA.

XX ADP19619;

XX 26-AUG-2004 (first entry)

XX Antigenic gluten oligopeptide epitope, SEQ ID 21.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

XX WO2004045392-A2.

XX 03-JUN-2004.

XX 20-NOV-2003; 2003WO-US037434.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Khosla C, Shan L;

XX WPI, 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
XX PT diagnostic assays for detecting antibodies against such oligopeptides, or  
XX PT for producing antibodies that bind specifically to such oligopeptides.

XX Claim 2; SEQ ID NO 21; 50pp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
XX CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
XX CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
XX CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
XX CC in diagnostic assays for detecting antibodies against such oligopeptides,  
XX CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

XX Query Match 100.0%; Score 42; DB 8; Length 9;  
XX Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 PQLPELPY 7  
XX |||  
XX Db 1 PQLPELPY 7

XX RESULT 9

XX ADP19619

XX ID ADP19619 standard; peptide; 9 AA.

XX ADP19619;

XX 26-AUG-2004 (first entry)

XX Antigenic gluten oligopeptide epitope, SEQ ID 21.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

XX WO2004045392-A2.

XX 03-JUN-2004.

XX 20-NOV-2003; 2003WO-US037434.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Khosla C, Shan L;

XX WPI, 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
XX PT diagnostic assays for detecting antibodies against such oligopeptides, or  
XX PT for producing antibodies that bind specifically to such oligopeptides.

XX Claim 2; SEQ ID NO 21; 50pp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
XX CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
XX CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
XX CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
XX CC in diagnostic assays for detecting antibodies against such oligopeptides,  
XX CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

XX Query Match 100.0%; Score 42; DB 8; Length 9;  
XX Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 PQLPELPY 7  
XX |||  
XX Db 1 PQLPELPY 7

XX RESULT 9

XX ADP19619

XX ID ADP19619 standard; peptide; 9 AA.

XX ADP19619;

XX 26-AUG-2004 (first entry)

XX Antigenic gluten oligopeptide epitope, SEQ ID 21.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

XX WO2004045392-A2.

XX 03-JUN-2004.

XX 20-NOV-2003; 2003WO-US037434.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Khosla C, Shan L;

XX WPI, 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
XX PT diagnostic assays for detecting antibodies against such oligopeptides, or  
XX PT for producing antibodies that bind specifically to such oligopeptides.

XX Claim 2; SEQ ID NO 21; 50pp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
XX CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
XX CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
XX CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
XX CC in diagnostic assays for detecting antibodies against such oligopeptides,  
XX CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

XX Query Match 100.0%; Score 42; DB 8; Length 9;  
XX Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 PQLPELPY 7  
XX |||  
XX Db 1 PQLPELPY 7

XX RESULT 9

XX ADP19619

XX ID ADP19619 standard; peptide; 9 AA.

XX ADP19619;

XX 26-AUG-2004 (first entry)

XX Antigenic gluten oligopeptide epitope, SEQ ID 21.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

XX WO2004045392-A2.

XX 03-JUN-2004.

XX 20-NOV-2003; 2003WO-US037434.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Khosla C, Shan L;

XX WPI, 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
XX PT diagnostic assays for detecting antibodies against such oligopeptides, or  
XX PT for producing antibodies that bind specifically to such oligopeptides.

XX Claim 2; SEQ ID NO 21; 50pp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
XX CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
XX CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
XX CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
XX CC in diagnostic assays for detecting antibodies against such oligopeptides,  
XX CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

XX Query Match 100.0%; Score 42; DB 8; Length 9;  
XX Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 PQLPELPY 7  
XX |||  
XX Db 1 PQLPELPY 7

XX RESULT 9

XX ADP19619

XX ID ADP19619 standard; peptide; 9 AA.

XX ADP19619;

XX 26-AUG-2004 (first entry)

XX Antigenic gluten oligopeptide epitope, SEQ ID 21.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

XX WO2004045392-A2.

XX 03-JUN-2004.

XX 20-NOV-2003; 2003WO-US037434.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Khosla C, Shan L;

XX WPI, 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
XX PT diagnostic assays for detecting antibodies against such oligopeptides, or  
XX PT for producing antibodies that bind specifically to such oligopeptides.

XX Claim 2; SEQ ID NO 21; 50pp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
XX CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
XX CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
XX CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
XX CC in diagnostic assays for detecting antibodies against such oligopeptides,  
XX CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

XX Query Match 100.0%; Score 42; DB 8; Length 9;  
XX Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 PQLPELPY 7  
XX |||  
XX Db 1 PQLPELPY 7

XX RESULT 9

XX ADP19619

XX ID ADP19619 standard; peptide; 9 AA.

XX ADP19619;

XX 26-AUG-2004 (first entry)

XX Antigenic gluten oligopeptide epitope, SEQ ID 21.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

XX WO2004045392-A2.

XX 03-JUN-2004.

XX 20-NOV-2003; 2003WO-US037434.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Khosla C, Shan L;

XX WPI, 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
XX PT diagnostic assays for detecting antibodies against such oligopeptides, or  
XX PT for producing antibodies that bind specifically to such oligopeptides.

XX Claim 2; SEQ ID NO 21; 50pp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
XX CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
XX CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
XX CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
XX CC in diagnostic assays for detecting antibodies against such oligopeptides,  
XX CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

XX Query Match 100.0%; Score 42; DB 8; Length 9;  
XX Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 PQLPELPY 7  
XX |||  
XX Db 1 PQLPELPY 7

XX RESULT 9

XX ADP19619

XX ID ADP19619 standard; peptide; 9 AA.

XX ADP19619;

XX 26-AUG-2004 (first entry)

XX Antigenic gluten oligopeptide epitope, SEQ ID 21.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

XX WO2004045392-A2.

XX 03-JUN-2004.

XX 20-NOV-2003; 2003WO-US037434.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Khosla C, Shan L;

XX WPI, 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
XX PT diagnostic assays for detecting antibodies against such oligopeptides, or  
XX PT for producing antibodies that bind specifically to such oligopeptides.

XX Claim 2; SEQ ID NO 21; 50pp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
XX CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
XX CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
XX CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
XX CC in diagnostic assays for detecting antibodies against such oligopeptides,  
XX CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

XX Query Match 100.0%; Score 42; DB 8; Length 9;  
XX Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 PQLPELPY 7  
XX |||  
XX Db 1 PQLPELPY 7

XX RESULT 9

XX ADP19619

XX ID ADP19619 standard; peptide; 9 AA.

XX ADP19619;

XX 26-AUG-2004 (first entry)

XX Antigenic gluten oligopeptide epitope, SEQ ID 21.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

XX WO2004045392-A2.

XX 03-JUN-2004.

XX 20-NOV-2003; 2003WO-US037434.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Khosla C, Shan L;

XX WPI, 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
XX PT diagnostic assays for detecting antibodies against such oligopeptides, or  
XX PT for producing antibodies that bind specifically to such oligopeptides.

XX Claim 2; SEQ ID NO 21; 50pp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
XX CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
XX CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
XX CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
XX CC in diagnostic assays for detecting antibodies against such oligopeptides,  
XX CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

XX Query Match 100.0%; Score 42; DB 8; Length 9;  
XX Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 PQLPELPY 7  
XX |||  
XX Db 1 PQLPELPY 7

XX RESULT 9

XX ADP19619

XX ID ADP19619 standard; peptide; 9 AA.

XX ADP19619;

XX 26-AUG-2004 (first entry)

XX Antigenic gluten oligopeptide epitope, SEQ ID 21.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

XX WO2004045392-A2.

XX 03-JUN-2004.

XX 20-NOV-2003; 2003WO-US037434.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Khosla C, Shan L;

XX WPI, 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
XX PT diagnostic assays for detecting antibodies against such oligopeptides, or  
XX PT for producing antibodies that bind specifically to such oligopeptides.

XX Claim 2; SEQ ID NO 21; 50pp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
XX CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
XX CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
XX CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
XX CC in diagnostic assays for detecting antibodies against such oligopeptides,  
XX CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

XX Query Match 100.0%; Score 42; DB 8; Length 9;  
XX

QY 1 POPELRY 7  
 |||||  
 Db 1 POPELRY 7

## RESULT 10

ADP19623

ADP19623 standard; peptide; 9 AA.

AC ADP19623;

DT 26-AUG-2004 (first entry)

DB Antigenic gluten oligopeptide epitope, SEQ ID 25.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

PN WO2004045392-A2.

DB 03-JUN-2004.

PR 20-NOV-2003; 2003WO-US037434.

PR 20-NOV-2002; 2002US-0428033P.

PA (STRD ) UNIV LELAND STANFORD JUNIOR.

PI Khosla C, Shan L;

DR WPI; 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
 PT diagnostic assays for detecting antibodies against such oligopeptides, or  
 PT for producing antibodies that bind specifically to such oligopeptides.

PS Claim 2; SEQ ID NO 25; 50bp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
 CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
 CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
 CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
 CC in diagnostic assays for detecting antibodies against such oligopeptides,  
 CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

SQ

Query Match 100.0%; Score 42; DB 8; Length 9;  
 Best Local Similarity 100.0%; Pred. No. 1.7e+06;

Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELRY 7  
 |||||  
 Db 3 POPELRY 9

## RESULT 11

ADP19620

ADP19620 standard; peptide; 9 AA.

AC ADP19620;

DT 26-AUG-2004 (first entry)

DB Antigenic gluten oligopeptide epitope, SEQ ID 22.

XX Gluten; Celiac Sprue; wheat.

XX Triticum aestivum.

PN WO2004045392-A2.

PD 03-JUN-2004.

PR 20-NOV-2003; 2003WO-US037434.

PR 20-NOV-2002; 2002US-0428033P.

PA (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Khosla C, Shan L;

XX WPI; 2004-460460/43.

XX New gluten oligopeptides, useful for diagnosing Celiac Sprue, in  
 PT diagnostic assays for detecting antibodies against such oligopeptides, or  
 PT for producing antibodies that bind specifically to such oligopeptides.

PS Claim 2; SEQ ID NO 22; 50bp; English.

XX The present invention relates to novel purified gluten oligopeptides. The  
 CC gluten oligopeptides comprise multiple T cell or B cell epitopes  
 CC (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in  
 CC stimulating T cells from Celiac Sprue patients for diagnostic purposes,  
 CC in diagnostic assays for detecting antibodies against such oligopeptides,  
 CC or for producing antibodies that bind specifically to such oligopeptides.

XX Sequence 9 AA;

SQ

Query Match 100.0%; Score 42; DB 8; Length 9;  
 Best Local Similarity 100.0%; Pred. No. 1.7e+06;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELRY 7  
 |||||  
 Db 3 POPELRY 9

## RESULT 12

ADP91449

ADP91449 standard; peptide; 10 AA.

AC ADP91449;

DT 26-FEB-2004 (first entry)

DB Immunogenic gluten oligopeptide.

XX Dermatological; antidiabetic; gene therapy; HLA inhibitor; immunogenic;  
 KW gluten; Celiac Sprue; dermatitis herpetiformis; HLA-DQ2 positive;  
 KW type 1 diabetes; protein co-ordinate data.

XX Synthetic.

PN WO2003096984-A2.

PD 27-NOV-2003.

PR 14-MAY-2003; 2003WO-US015506.

PR 14-MAY-2002; 2002US-0380761P.

PR 28-JUN-2002; 2002US-0392782P.

PR 31-OCT-2002; 2002US-0422933P.

PA (STRD ) UNIV LELAND STANFORD JUNIOR.

PA (SOLID ) SOLID L. M.

PA (HAUSCH ) HAUSCH F.

PA (SHAN ) SHAN L.

PA (KHOSLA ) KHOSLA C.

PA (QUARSTEN ) QUARSTEN H.

PI Solid LM, Hausch F, Shan L, Khosla C, Quarsten H, Gray G;

PI Kim C;

DR WPI; 2004-053078/05.

XX New HLA-binding peptide inhibitor that is an analog of an immunogenic  
PT gluten oligopeptide, useful for preparing a composition for treating  
PT e.g., Celiac Sprue or dermatitis herpetiformis.

XX Claim 5; Page 112; 115pp; English.

CC The invention relates to a new HLA-binding peptide inhibitor, which is an  
CC analog of an immunogenic gluten oligopeptide of at least about 8 residues  
CC in length, altered by the replacement of one or more amino acids and that  
CC binds tightly to HLA molecules, and is proteolytically stable and does  
CC not activate disease-specific T cells. Also disclosed is a computer for  
CC producing a three-dimensional representation of an HLA-DQ2 molecule bound  
CC to an immunogenic gluten oligopeptide. The HLA-binding peptide inhibitor  
CC comprises the sequence PPELPY 7. The HLA-binding peptide inhibitor is  
CC useful for preparing a composition for treating Celiac Sprue or  
CC dermatitis herpetiformis, or HLA-DQ2 positive individuals who are either  
CC predisposed to or have developed symptoms of type 1 diabetes. The current  
CC sequence represents an immunogenic gluten oligopeptide that may be  
CC modified to generate an HLA-binding peptide inhibitor.

XX Sequence 10 AA;

Query Match 100.0%; Score 42; DB 8; Length 10;  
Best Local Similarity 100.0%; Pred. No. 1.7;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PPELPY 7  
| | | | |  
Db 3 PPELPY 9

RESULT 13

ID AAU01811 standard; peptide; 11 AA.

XX AAU01811;

DT 07-SEP-2001 (first entry)

XX Wheat A-gliadin 57-73 Q65 bioactive residues.

XX Wheat; A-gliadin; immunodominant T-cell epitope; celiac disease;  
XX gluten intolerance; T-cell binding; antagonist; transglutaminase;  
XX transgenic plant; A-gliadin 57-73 Q65.

XX Triticum aestivum.

XX WO200125793-A2.

XX 12-APR-2001.

XX 02-OCT-2000; 2000WO-GB003760.

XX 01-OCT-1999; 99GB-00023306.

XX (ISIS-) ISIS INNOVATION LTD.

XX Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2001-300179/31.

XX Diagnosing celiac disease or susceptibility to the disease in an  
PT individual, by detecting in vitro or in vivo T cells which bind  
PT immunodominant T cell epitope obtained from naturally occurring homolog  
PT of gliadin.

XX Example 9; Page 45; 107pp; English.

XX The sequence represents residues 4-17 of wheat A-gliadin immunodominant T  
CC -cell epitope, A-gliadin 57-73 Q65 (where the Gln at a position  
CC corresponding to 65 in the full length A-gliadin has been converted to a

CC glu by the action of a transglutaminase), found to contribute

CC substantially to the bioactivity of A-gliadin 57-73 Q65. The peptides of

CC the invention are used to test mammalian (preferably human)

CC susceptibility to celiac disease (gluten intolerance). The peptides are

CC contacted with a blood sample and T-cell recognition measured, a positive

CC T-cell recognition indicating a susceptibility to celiac disease. The

CC peptides are useful for inducing tolerance in an individual and

CC antagonists to the peptides are useful for treating or preventing celiac

CC disease in an individual and for producing an antibody specific to them

CC or a wild-type sequence. A mutant gliadin protein (or its fragment of 15

CC amino acids in length) whose wild-type sequence can be modified by

CC transglutaminase to a sequence that comprises the epitope, but which has

CC been modified in such a way that it does not contain sequence which can

CC be modified by transglutaminase to a sequence that comprise the epitope

CC is useful for decreasing the ability of gliadin protein to cause Celiac

CC disease. Nucleic acids encoding proteins antagonistic to the T-cell

CC binding of the epitopes are useful for obtaining a transgenic plant cell

CC or seed and for the production of a protein. The resultant crop plant is

CC useful for obtaining a product of a wheat plant, especially grain, which

CC is optionally processed into flour or another grain product. Food

CC comprising the antagonistic protein is useful instead of a wild-type

XX gliadin

XX Sequence 11 AA;

Query Match 100.0%; Score 42; DB 4; Length 11;  
Best Local Similarity 100.0%; Pred. No. 1.9;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PPELPY 7  
| | | | |  
Db 3 PPELPY 9

RESULT 14

ID ADH14524 standard; peptide; 11 AA.

XX ADH14524;

DT 11-MAR-2004 (first entry)

XX Gliadin related epitope peptide SEQ ID NO:14.

XX Celiac disease; gliadin; gliadin T cell epitope; gastrointestinal;

XX vaccine.

XX Synthetic.

XX WO2003104273-A2.

XX 18-DEC-2003.

XX 05-JUN-2003; 2003WO-GB002450.

XX 05-JUN-2002; 2002GB-00012885.

XX (ISIS-) ISIS INNOVATION LTD.

XX Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2004-043640/04.

XX Preventing or treating celiac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.

XX Example 9; SEQ ID NO 14; 177pp; English.

XX The present invention describes a method (M1) for preventing or treating  
CC celiac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has

*crossed to  
wheat*

*pat dates*

CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.

SC Sequence 11 AA;

Query Match Best Local Similarity 100.0%; Score 42; DB 8; Length 11;

Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PGPRLPY 7  
 |||||  
 3 PGPRLPY 9

RESULT 15

ADH14655 ADH14655 standard; peptide; 11 AA.

ADH14655;

DE 11-MAR-2004 (first entry)

DE Gliadin related epitope peptide.

KM coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

KM vaccine.

OS Synthetic.

PN WO2003104273-A2.

PD 18-DEC-2003.

PE 05-JUN-2003; 2003WO-GB002450.

PR 05-JUN-2002; 2002GB-00012885.

PA (ISIS-) ISIS INNOVATION LTD.

PL Anderson RP, Hill AVS, Jewell DP;

DR WPI: 2004-043640/04.

PT Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.

PS Example 6; Page 80; 177pp; English.

CC The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.

SC Sequence 11 AA;

Query Match Best Local Similarity 100.0%; Score 42; DB 8; Length 11;

Best Local Similarity 100.0%; Pred. No. 1.9; Indels 0; Gaps 0;  
 Matches 7; Conservative 0; Mismatches 0;

QY 1 PGPRLPY 7  
 |||||  
 5 PGPRLPY 11

RESULT 16

AAU01827 AAU01827 standard; peptide; 12 AA.

AAU01827;

DT 07-SEP-2001 (first entry)

DE Alpha-gliadin T-cell epitope described in coeliac disease #1.

KM Wheat; alpha-gliadin; T-cell epitope; coeliac disease;

KM gluten intolerance; antagonist; transglutaminase; transgenic plant.

OS Triticum aestivum.

PN WO200125793-A2.

PD 12-APR-2001.

PE 02-OCT-2000; 2000WO-GB003760.

PR 01-OCT-1999; 99GB-00023306.

PA (ISIS-) ISIS INNOVATION LTD.

PL Anderson RP, Hill AVS, Jewell DP;

DR WPI: 2001-300179/31.

PT Diagnosing coeliac disease or susceptibility to the disease in an  
 PT individual, by detecting in vitro or in vivo T cells which bind  
 PT immunodominant T cell epitope obtained from naturally occurring homolog  
 PT of gliadin.

PS Example 6; Fig 12e; 107pp; English.

CC The sequence is a wheat alpha-gliadin T-cell epitope described in coeliac  
 CC disease. The peptides of the invention are used to test mammalian  
 CC (preferably human) susceptibility to coeliac disease (gluten  
 CC intolerance). The peptides are contacted with a blood sample and T cell  
 CC recognition measured, a positive T-cell recognition indicating a  
 CC susceptibility to coeliac disease. The peptides are useful for inducing  
 CC tolerance in an individual and antagonists to the peptides are useful for  
 CC treating or preventing coeliac disease in an individual and for producing  
 CC an antibody specific to them or a wild-type sequence. A mutant gliadin  
 CC protein (or its fragment of 15 amino acids in length) whose wild-type  
 CC sequence can be modified by transglutaminase to a sequence that comprises  
 CC the epitope, but which has been modified in such a way that it does not  
 CC contain sequence which can be modified by transglutaminase to a sequence  
 CC that comprises the epitope is useful for decreasing the ability of gliadin  
 CC protein to cause Coeliac disease. Nucleic acids encoding proteins  
 CC antagonistic to the T-cell binding of the epitopes are useful for  
 CC obtaining a transgenic plant cell or seed and for the production of a  
 CC protein. The resultant crop plant is useful for obtaining a product of a  
 CC wheat plant, especially grain, which is optionally processed into flour  
 CC or another grain product. Food comprising the antagonistic protein is  
 CC useful instead of a wild-type gliadin

SC Sequence 12 AA;

Query Match Best Local Similarity 100.0%; Score 42; DB 4; Length 12;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PGPRLPY 7

Db 6 POPELPY 12

RESULT 17  
AAU01809 standard; peptide; 12 AA.

AAU01809;

07-SEP-2001 (first entry)

Wheat alpha9-gliadin chymotrypsin digest peptide.

Wheat; A-gliadin; chymotrypsin digest peptide; coeliac disease;  
gluten intolerance; T-cell binding; antagonist; transglutaminase;  
transgenic plant; alpha9-gliadin.

Triticum aestivum.

WO200125793-A2.

12-APR-2001.

02-OCT-2000; 2000WO-GB003760.

01-OCT-1999; 99GB-00023306.

(ISIS-) ISIS INNOVATION LTD.

Anderson RP, Hill AVS, Jewell DP;

WPI; 2001-300179/31.

Diagnosing coeliac disease or susceptibility to the disease in an individual, by detecting in vitro or in vivo T cells which bind immunodominant T cell epitope obtained from naturally occurring homolog of gliadin.

Example 7; Page 42; 107pp; English.

The sequence represents a peptide released by chymotryptic digestion of recombinant alpha9-gliadin, representing a truncation of the optimal epitope sequence (presented as AAU01798) The peptides of the invention are used to test mammalian (preferably human) susceptibility to coeliac disease (gluten intolerance). The peptides are contacted with a blood sample and T cell recognition measured, a positive T-cell recognition indicating a susceptibility to coeliac disease. The peptides are useful for inducing tolerance in an individual and antagonists to the peptides are useful for treating or preventing coeliac disease in an individual and for producing an antibody specific to them or a wild-type sequence. A mutant gliadin protein (or its fragment of 15 amino acids in length) whose wild-type sequence can be modified by transglutaminase to a sequence that comprises the epitope, but which has been modified in such a way that it does not contain sequence which can be modified by transglutaminase to a sequence that comprises the epitope is useful for decreasing the ability of gliadin protein to cause Coeliac disease. Nucleic acids encoding proteins antagonistic to the T-cell binding of the epitopes are useful for obtaining a transgenic plant cell or seed and for the production of a protein. The resultant crop plant is useful for obtaining a product of a wheat plant, especially grain, which is optionally processed into flour or another grain product. Food comprising the antagonistic protein is useful instead of a wild-type gliadin

Sequence 12 AA;

Query Match 100.0%; Score 42; DB 4; Length 12;  
Best Local Similarity 100.0%; Pred. No. 2.1;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPY 7  
DB 6 POPELPY 12

RESULT 18  
AAE38560 standard; peptide; 12 AA.

AAE38560;

04-DEC-2003 (first entry)

Wheat peptide #2 used to illustrate the method of the invention.

Wheat; therapy; celiac sprue; dermatitis herpetiformis; gluten toxicity;  
glutenase; foodstuff; antiinflammatory; dermatological.

Triticum aestivum.

WO2003068170-A2.

21-AUG-2003.

14-FEB-2003; 2003WO-US004743.

14-FEB-2002; 2002US-0357238P.

14-MAY-2002; 2002US-0380761P.

28-JUN-2002; 2002US-0392782P.

31-OCT-2002; 2002US-0422933P.

20-NOV-2002; 2002US-0428033P.

20-DEC-2002; 2002US-0435881P.

(STRD ) UNIV LEBLAND STANFORD JUNIOR.

Hausch F, Gray G, Shan L, Khosla C;

WPI; 2003-697466/66.

Treating celiac sprue and/or dermatitis herpetiformis comprises administering to a patient a dose of a glutenase that attenuates gluten toxicity in the patient.

Claim 4; Page 52; 69pp; English.

The present invention relates to a method for treating celiac sprue and/or dermatitis herpetiformis. The method involves administering to a patient a dose of a glutenase that attenuates gluten toxicity in the patient. The method is also useful in treating a foodstuff to render the foodstuff less toxic to a celiac sprue patient. The present sequence is a wheat peptide used to illustrate the method of the invention

Sequence 12 AA;

Query Match 100.0%; Score 42; DB 7; Length 12;  
Best Local Similarity 100.0%; Pred. No. 2.1;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPY 7  
DB 6 POPELPY 12

RESULT 19  
ADP91475 standard; peptide; 12 AA.

ADP91475;

26-FEB-2004 (first entry)

Peptide fused to HLA-DQ2 beta chain.

Dermatological; antidiabetic; gene therapy; HLA; inhibitor; immunogenic;  
gluten; celiac sprue; dermatitis herpetiformis; HLA-DQ2 positive;  
type I diabetes; protein co-ordinate data.

*Wheat peptide  
to illustrate*

*first entry*

XX Synthetic.

OS WO2003096984 A2.

PN 27-NOV-2003.

XX 14-MAY-2003; 2003WO-US015506.

XX 14-MAY-2003; 2002US-0380761P.

XX 28-JUN-2002; 2002US-0392782P.

XX 31-OCT-2002; 2002US-0422933P.

XX 20-NOV-2002; 2002US-0428033P.

XX (STRD) UNIV IELAND STANFORD JUNIOR.

XX (SOLL) SOLID L. M.

XX (HAUS) HAUSCH F.

XX (SHAN) SHAN L.

XX (KHOS) KHOSLA C.

XX (QVAR) QVARSTEN H.

XX Solid IM, Hausch F, Shan L, Khosla C, Quarsten H, Gray G;

XX Kim C;

XX MPI; 2004-053078/05.

XX New HLA-binding peptide inhibitor that is an analog of an immunogenic

XX gluten oligopeptide, useful for preparing a composition for treating

XX e.g., Celiac Sprue or dermatitis herpetiformis.

XX Example 3; Page 22; 115pp; English.

XX The invention relates to a new HLA-binding peptide inhibitor, which is an

XX analog of an immunogenic gluten oligopeptide of at least about 8 residues

XX in length, altered by the replacement of one or more amino acids and that

XX binds tightly to HLA molecules, and is proteolytically stable and does

XX not activate disease-specific T cells. Also disclosed is a computer for

XX producing a three-dimensional representation of an HLA-DQ2 molecule bound

XX to an immunogenic gluten oligopeptide. The HLA-binding peptide inhibitor is

XX comprises the sequence PQLPELPY 7. The HLA-binding peptide inhibitor is

XX useful for preparing a composition for treating Celiac Sprue or

XX dermatitis herpetiformis, or HLA-DQ2 positive individuals who are either

XX predisposed to or have developed symptoms of type 1 diabetes. The current

XX sequence represents a peptide that is fused to the beta-chain of HLA-DQ2

XX in an example from the invention, for the purposes of X-ray

XX crystallographic analysis of soluble HLA-DQ2.

XX Sequence 12 AA;

XX Query Match

XX Best Local Similarity 100.0%; Score 42; DB 8; Length 12;

XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX QY 1 PQLPELPY 7

XX DB 6 PQLPELPY 12

XX RESULT 20

XX ADH14576

XX ADH14576 standard; peptide; 12 AA.

XX AC ADH14576;

XX DT 11-MAR-2004 (first entry)

XX DE Gliadin related epitope peptide.

XX KM coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

XX KM vaccine.

XX OS Synthetic.

XX WP1; 2004-043640/04.

PN WO2003104273-A2.

XX 18-DEC-2003.

XX 05-JUN-2003; 2003WO-GB002450.

XX 05-JUN-2002; 2002GB-00012885.

XX (ISIS-) ISIS INNOVATION LTD.

XX Anderson RP, Hill AVS, Jewell DP;

XX WP1; 2004-043640/04.

XX Preventing or treating coeliac disease comprises administering agent

XX PT which are wheat gliadin T cell epitope capable of being recognized by T

XX PS cell receptor.

XX Example 14; Page 71; 177pp; English.

XX The present invention describes a method (M1) for preventing or treating

XX coeliac disease. M1 comprises administering an agent (A) comprising a

XX gliadin T cell epitope, which is capable of being recognised by a T cell

XX receptor to an individual. Gliadin is a component of gluten. (A) has

XX gastrointestinal activity, and can be used in vaccines. The agent (A) can

XX be used in the preparation of a medicament for treating or preventing

XX coeliac disease. (A) can also be used in the preparation of a diagnostic

XX means for use in diagnosing coeliac disease, or susceptibility to coeliac

XX disease, in an individual, which involves determining whether T cells of

XX the individual recognise the agent, recognition by the T cells indicating

XX CC that the individual has, or is susceptible to, coeliac disease. The

XX CC present sequence represents a peptide which is used in the

XX CC exemplification of the present invention.

XX Sequence 12 AA;

XX Query Match

XX Best Local Similarity 100.0%; Score 42; DB 8; Length 12;

XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX QY 1 PQLPELPY 7

XX DB 6 PQLPELPY 12

XX RESULT 21

XX ADH14559

XX ADH14559 standard; peptide; 12 AA.

XX AC ADH14559;

XX DT 11-MAR-2004 (first entry)

XX DE Gliadin related epitope peptide.

XX KM coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

XX KM vaccine.

XX OS Synthetic.

XX WP1; 2004-043640/04.



PT Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 cell receptor.  
 PS  
 PS Example 14; Page 66; 177pp; English.  
 CC The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.  
 SQ Sequence 12 AA;  
 Cy  
 Cy 1 PQLPELPY 7  
 Db 6 PQLPELPY 12  
 Query Match 100.0%; Score 42; DB 8; Length 12;  
 Best Local Similarity 100.0%; Pred. No. 2.1;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0  
 RESULT 22  
 ID ADH14573 standard; peptide; 12 AA.  
 ADH14573  
 AC ADH14573;  
 XX  
 DT 11-MAR-2004 (first entry)  
 XX  
 DE Gliadin related epitope peptide.  
 XX  
 KM coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 KM vaccine.  
 OS Synthetic.  
 OS  
 PN WO2003104273-A2.  
 XX  
 PD 18-DEC-2003.  
 PF 05-JUN-2003; 2003WO-GB002450.  
 PF  
 PR 05-JUN-2002; 2002GB-00012885.  
 PR  
 PA (ISIS-) ISIS INNOVATION LTD.  
 PA  
 PI Anderson RP, Hill AVS, Jewell DP;  
 PI  
 PI WPI; 2004-043640/04.  
 PT Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 cell receptor.  
 PS  
 PS Example 14; Page 71; 177pp; English.  
 CC The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing

CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.

XX  
XX  
SQ Sequence 12 AA;

QY 1 POPELPY 7  
DB 6 POPELPY 12

RESULT 23  
ADH16186  
ID ADH16186 standard; peptide; 12 AA.  
XX  
XX ADH16186;  
AC  
XX 11-MAR-2004 (first entry)  
DT  
XX Gliadin related epitope peptide.  
DE  
XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
KW vaccine.  
XX  
XX Synthetic.  
OS  
XX WO2003104273-A2.  
PN  
XX 18-DEC-2003.  
PD  
XX 05-JUN-2003; 2003WO-GB002450.  
PF  
XX 05-JUN-2002; 2002GB-00012885.  
PR  
XX (ISIS-) ISIS INNOVATION LTD.  
PA  
XX Anderson RP, Hill AVS, Jewell DP;  
PI WPI; 2004-043640/04.  
DR  
XX  
XX Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.  
PT  
XX  
XX Example 6; Fig 12e; 177bp; English.  
PS  
XX The present invention describes a method (M1) for preventing or treating  
XX coeliac disease. M1 comprises administering an agent (A) comprising a  
XX gliadin T cell epitope, which is capable of being recognised by a T cell  
XX receptor, to an individual. Gliadin is a component of gluten. (A) has  
XX gastrointestinal activity, and can be used in vaccines. The agent (A) can  
XX be used in the preparation of a medicament for treating or preventing  
XX coeliac disease. (A) can also be used in the preparation of a diagnostic  
XX means for use in diagnosing coeliac disease, or susceptibility to coeliac  
XX disease, in an individual, which involves determining whether T cells of  
XX the individual recognise the agent, recognition by the T cells indicating  
XX that the individual has, or is susceptible to, coeliac disease. The  
XX present sequence represents a peptide which is used in the  
XX exemplification of the present invention.  
XX  
XX Sequence 12 AA;

Query Match 100.0%; Score 42; DB 8; Length 12;  
Best Local Similarity 100.0%; Pred. No. 2.1;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Query Match 100.0%; Score 42; DB 8; Length 12;  
Best Local Similarity 100.0%; Pred. No. 2.1;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 POPELPHY 7  
 DB 6 POPELPHY 12

## RESULT 24

ADH14523

ID ADH14523 standard; peptide; 12 AA.

AC ADH14523;

DT 11-MAR-2004 (first entry)

DE Gliadin related epitope peptide SEQ ID NO:13.

KM coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

XX vaccine.

OS Synthetic.

FN WO2003104273-A2.

XX 18-DEC-2003.

DE 05-JUN-2003; 2003WO-GB002450.

DE 05-JUN-2002; 2002GB-00012865.

PA (ISIS-) ISIS INNOVATION LTD.

PI Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2004-043640/04.

PT Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.

PS Example 7; SEQ ID NO 13; 177pp; English.

XX The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.

SQ Sequence 12 AA;

Query Match 100.0%; Score 42; DB 8; Length 12;  
 Best Local Similarity 100.0%; Pred. No. 2.1;

Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 POPELPHY 7  
 DB 6 POPELPHY 12

## RESULT 25

ADH14571

ID ADH14571 standard; peptide; 12 AA.

AC ADH14571;

DT 11-MAR-2004 (first entry)

XX Gliadin related epitope peptide.  
 DE coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

KM vaccine.  
 XX Synthetic.

OS Synthetic.

FN WO2003104273-A2.

XX 18-DEC-2003.

DE 05-JUN-2003; 2003WO-GB002450.

DE 05-JUN-2002; 2002GB-00012865.

PA (ISIS-) ISIS INNOVATION LTD.

PI Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2004-043640/04.

PT Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.

PS Example 14; Page 71; 177pp; English.

XX The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.

SQ Sequence 12 AA;

Query Match 100.0%; Score 42; DB 8; Length 12;  
 Best Local Similarity 100.0%; Pred. No. 2.1;

Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 POPELPHY 7  
 DB 6 POPELPHY 12

## RESULT 26

ADH14648

ID ADH14648 standard; peptide; 12 AA.

AC ADH14648;

DT 11-MAR-2004 (first entry)

DE Gliadin related epitope peptide.

KM coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 XX vaccine.

OS Synthetic.

FN WO2003104273-A2.

XX 18-DEC-2003.

DE 05-JUN-2003; 2003WO-GB002450.

XX 05-JUN-2002; 2002GB-00012885.  
 PR (ISIS-) ISIS INNOVATION LTD.  
 PA  
 PI Anderson RP, Hill AVS, Jewell DP;  
 XX WPI; 2004-043640/04.  
 DR  
 XX Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.  
 XX  
 PS Example 6; Page 80; 177pp; English.  
 XX  
 CC The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.  
 CC  
 SQ Sequence 12 AA;  
 XX  
 Query Match 100.0%; Score 42; DB 8; Length 12;  
 Best Local Similarity 100.0%; Pred. No. 2.1;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 POPELPY 7  
 Db 6 POPELPY 12  
 XX  
 RESULT 27  
 AAE38563  
 ID AAE38563 standard; peptide; 13 AA.  
 XX  
 AC AAE38563;  
 XX  
 DT 04-DEC-2003 (first entry)  
 XX  
 DE Wheat peptide #5 used to illustrate the method of the invention.  
 XX  
 KM Wheat; therapy; celiac sprue; dermatitis herpetiformis; gluten toxicity;  
 KM glutenase; foodstuff; antiinflammatory; dermatological.  
 KM  
 OS Triticum aestivum.  
 XX  
 PN WO2003068170-A2.  
 PD 21-AUG-2003.  
 XX  
 PF 14-FEB-2003; 2003WO-US004743.  
 XX  
 PR 14-FEB-2002; 2002US-0357238P.  
 PR 14-MAY-2002; 2002US-0380761P.  
 PR 28-JUN-2002; 2002US-0392782P.  
 PR 31-OCT-2002; 2002US-0422833P.  
 PR 20-NOV-2002; 2002US-0428033P.  
 PR 20-DEC-2002; 2002US-0435881P.  
 XX  
 PA (STRD ) UNIV LELAND STANFORD JUNIOR.  
 XX  
 PI Hauech F, Gray G, Shan L, Khosla C;  
 XX WPI; 2003-697466/66.  
 DR

*best dates*

XX Treating celiac sprue and/or dermatitis herpetiformis comprises  
 PT administering to a patient a dose of a glutenase that attenuates gluten  
 PT toxicity in the patient.  
 XX  
 PS Claim 2; Page 52; 69pp; English.  
 XX  
 CC The present invention relates to a method for treating celiac sprue  
 CC and/or dermatitis herpetiformis. The method involves administering to a  
 CC patient a dose of a glutenase that attenuates gluten toxicity in the  
 CC patient. The method is also useful in treating a foodstuff to render the  
 CC foodstuff less toxic to a celiac sprue patient. The present sequence is a  
 CC wheat peptide used to illustrate the method of the invention.  
 CC  
 SQ Sequence 13 AA;  
 XX  
 Query Match 100.0%; Score 42; DB 7; Length 13;  
 Best Local Similarity 100.0%; Pred. No. 2.3;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 POPELPY 7  
 Db 1 POPELPY 7  
 XX  
 RESULT 28  
 ADF91447  
 ID ADF91447 standard; peptide; 13 AA.  
 XX  
 AC ADF91447;  
 XX  
 DT 26-FEB-2004 (first entry)  
 XX  
 DE Immunogenic gluten oligopeptide.  
 XX  
 KM Dermatological; antidiabetic; gene therapy; HLA; inhibitor; immunogenic;  
 KM gluten; Celiac Sprue; dermatitis herpetiformis; HLA-DQ2 positive;  
 KM type I diabetes; protein co-ordinate data.  
 XX  
 OS Synthetic.  
 XX  
 PN WO2003096984-A2.  
 PD 27-NOV-2003.  
 XX  
 PF 14-MAY-2003; 2003WO-US015506.  
 XX  
 PR 14-MAY-2002; 2002US-0380761P.  
 PR 28-JUN-2002; 2002US-0392782P.  
 PR 31-OCT-2002; 2002US-0422833P.  
 PR 20-NOV-2002; 2002US-0428033P.  
 XX  
 PA (STRD ) UNIV LELAND STANFORD JUNIOR.  
 PA (SOL/L) SOL/LID L M.  
 PA (HAUS/) HAUSCH F.  
 PA (SHAN/) SHAN L.  
 PA (KHOS/) KHOSLA C.  
 PA (QUAR/) QUARSTEN H.  
 XX  
 PI Solid LM, Hauech F, Shan L, Khosla C, Quarsten H, Gray G,  
 PI Kim C;  
 XX  
 DR WPI; 2004-053078/05.  
 XX  
 PR New HLA-binding peptide inhibitor that is an analog of an immunogenic  
 PT gluten oligopeptide, useful for preparing a composition for treating  
 PT e.g., Celiac Sprue or dermatitis herpetiformis.  
 XX  
 PS Disclosure; Page 6; 115pp; English.  
 XX  
 CC The invention relates to a new HLA-binding peptide inhibitor, which is an  
 CC analog of an immunogenic gluten oligopeptide of at least about 8 residues  
 CC in length, altered by the replacement of one or more amino acids and that

*best dates*

CC binds tightly to HLA molecules, and is proteolytically stable and does  
CC not activate disease-specific T cells. Also disclosed is a computer for  
CC producing a three-dimensional representation of an HLA-DQ2 molecule bound  
CC to an immunogenic gluten oligopeptide. The HLA-binding peptide inhibitor  
CC comprises the sequence XPQPELPY. The HLA-binding peptide inhibitor is  
CC useful for preparing a composition for treating Celiac Sprue or  
CC dermatitis herpetiformis, or HLA-DQ2 positive individuals who are either  
CC predisposed to or have developed symptoms of type I diabetes. The current  
CC sequence represents an immunogenic gluten oligopeptide that may be  
CC modified to generate an HLA-binding peptide inhibitor.

SO Sequence 13 AA:

Query Match 100.0%; Score 42; DB 8; Length 13;  
Best Local Similarity 100.0%; Pred. No. 2.3;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PQLPELPY 7  
| | | | |  
DB 6 PQLPELPY 12

RESULT 29  
ADP91450  
ID ADP91450 standard; peptide; 13 AA.  
XX  
AC ADP91450;  
XX  
DT 26-FEB-2004 (first entry)  
XX  
DE Immunogenic gluten oligopeptide.  
XX  
KW Dermatological; antidiabetic; gene therapy; HLA; inhibitor; immunogenic;  
KW gluten; Celiac Sprue; dermatitis herpetiformis; HLA-DQ2 positive;  
KW type I diabetes; protein co-ordinate data.  
XX  
OS Synthetic.  
XX  
PN WO2003096984-A2.  
XX  
PD 27-NOV-2003.  
XX  
PE 14-MAY-2003; 2003WO-US015506.  
XX  
PR 14-MAY-2002; 2002US-0380761P.  
PR 28-JUN-2002; 2002US-0392782P.  
PR 31-OCT-2002; 2002US-0422933P.  
PR 20-NOV-2002; 2002US-0428033P.  
XX  
PA (STRD ) UNIT LELAND STANFORD JUNIOR.  
PA (SOLL ) SOLID L M.  
PA (HAUS ) HAUSCH F.  
PA (SHAN ) SHAN L.  
PA (KHOS ) KHOSIA C.  
PA (QUAR ) QUARSTEN H.  
XX  
PI Solid LM, Hausch F, Shan L, Khosia C, Quarsten H, Gray G;  
PI Kim C;  
XX  
DR WPI; 2004-053078/05.  
XX  
PT New HLA-binding peptide inhibitor that is an analog of an immunogenic  
PT given oligopeptide, useful for preparing a composition for treating  
PT e.g., Celiac Sprue or dermatitis herpetiformis.  
XX  
PS Claim 5; Page 112; 115pp; English.  
XX  
CC The invention relates to a new HLA-binding peptide inhibitor, which is an  
CC analog of an immunogenic gluten oligopeptide of at least about 8 residues  
CC in length, altered by the replacement of one or more amino acids and that  
CC binds tightly to HLA molecules, and is proteolytically stable and does  
CC not activate disease-specific T cells. Also disclosed is a computer for  
CC producing a three-dimensional representation of an HLA-DQ2 molecule bound

CC to an immunogenic gluten oligopeptide. The HLA-binding peptide inhibitor  
CC comprises the sequence XPQPELPY. The HLA-binding peptide inhibitor is  
CC useful for preparing a composition for treating Celiac Sprue or  
CC dermatitis herpetiformis, or HLA-DQ2 positive individuals who are either  
CC predisposed to or have developed symptoms of type I diabetes. The current  
CC sequence represents an immunogenic gluten oligopeptide that may be  
CC modified to generate an HLA-binding peptide inhibitor.

SO Sequence 13 AA:

Query Match 100.0%; Score 42; DB 8; Length 13;  
Best Local Similarity 100.0%; Pred. No. 2.3;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PQLPELPY 7  
| | | | |  
DB 1 PQLPELPY 7

RESULT 30  
ADP91349  
ID ADP91349 standard; peptide; 13 AA.  
XX  
AC ADP91349;  
XX  
DT 26-FEB-2004 (first entry)  
XX  
DE High affinity peptide substrate for tTGase.  
XX  
KW Dermatological; neuroprotective; cytostatic; vulnery; anticonvulsant;  
KW neurotropic; antiparkinsonian; tranquiliser; antiinflammatory;  
KW immunosuppressive; celiac sprue; dermatitis herpetiformis;  
KW tissue transglutaminase; tTGase; inhibitor; gluten;  
KW neurological disorder; cancer; wound healing; Huntington's disease;  
KW Alzheimer's disease; Parkinson's disease; food intolerance.  
XX  
OS Unidentified.  
XX  
PN WO2003096979-A2.  
XX  
PD 27-NOV-2003.  
XX  
PE 14-MAY-2003; 2003WO-US015343.  
XX  
PR 14-MAY-2002; 2002US-0380761P.  
PR 28-JUN-2002; 2002US-0392782P.  
PR 31-OCT-2002; 2002US-0422933P.  
PR 20-NOV-2002; 2002US-0428033P.  
XX  
PA (STRD ) UNIT LELAND STANFORD JUNIOR.  
PA (SOLL ) SOLID L M.  
PA (HAUS ) HAUSCH F, Parrot I, Shan L;  
PA (KHOS ) KHOSIA C, Khosia C, Quarsten H, Gray G;  
XX  
PI WPI; 2004-098857/10.  
XX  
DR WPI; 2004-098857/10.  
XX  
PT Method useful for treatment of celiac sprue and/or dermatitis  
PT herpetiformis involves the use of tissue transglutaminase (tTGase)  
PT inhibitor to attenuate gluten toxicity.  
XX  
PS Disclosure; Page 9; 37pp; English.  
XX  
CC The invention relates to a method for the treatment of celiac sprue  
CC and/or dermatitis herpetiformis, involving the administration of tissue  
CC transglutaminase (tTGase) inhibitor to attenuate gluten toxicity in the  
CC patient. The method of the invention is useful for the treatment of a  
CC celiac sprue and dermatitis herpetiformis, or for the treatment of a  
CC disorder where tissue transglutaminase is a factor in disease etiology,  
CC such as a neurological disorder, cancer or wound healing. The method of  
CC the invention is also useful in the treatment of progressive supranuclear  
CC palsy, Huntington's, Alzheimer's and Parkinson's diseases, the aberrant  
CC activation of TGases may be caused by oxidative stress and inflammation.  
CC The formulation reduces the toxic effects of gluten oligopeptides,  
CC thus attenuating or eliminates the damaging effects of gluten. The

CC formulation allows the celiac sprue individual to eat gluten-containing  
 CC foodstuffs without ill effect, or at least to tolerate such foodstuffs in  
 CC small or moderate quantities without inducing relapse. The current  
 CC sequence represents a high affinity peptide substrate for tase that  
 CC acts as a glutenase resistant peptide. This peptide contains a glutamine  
 CC formed by deamination.  
 CC  
 XX

SQ Sequence 13 AA;

Query Match 100.0%; Score 42; DB 8; Length 13;  
 Best Local Similarity 100.0%; Pred. No. 2.3;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 POPELPY 7  
 |||||  
 1 POPELPY 7

RESULT 31

ADH14656  
 ID ADH14656 standard; peptide; 13 AA.

XX ADH14656;

XX 11-MAR-2004 (first entry)

XX Gliadin related epitope peptide.

XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 KM vaccine.

XX Synthetic.

XX WO2003104273-A2.

XX 18-DEC-2003.

XX 05-JUN-2003; 2003WO-GB002450.

XX 05-JUN-2002; 2002GB-00012885.

XX (ISIS-) ISIS INNOVATION LTD.

XX Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2004-043640/04.

XX Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.  
 XX

XX Example 6; Page 80; 177pp; English.

XX The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.  
 CC  
 XX

SQ Sequence 13 AA;

Query Match 100.0%; Score 42; DB 8; Length 13;  
 Best Local Similarity 100.0%; Pred. No. 2.3;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 POPELPY 7  
 |||||  
 7 POPELPY 13

RESULT 32

AAU01828  
 ID AAU01828 standard; peptide; 14 AA.

XX AAU01828;

XX 07-SEP-2001 (first entry)

XX Alpha-gliadin T-cell epitope described in coeliac disease #2.

XX Wheat; alpha-gliadin; T-cell epitope; coeliac disease;  
 KM gluten intolerance; antagonist; transglutaminase; transgenic plant.

XX Triticum aestivum.

XX WO200125793-A2.

XX 12-APR-2001.

XX 02-OCT-2000; 2000WO-GB003760.

XX 01-OCT-1999; 99GB-00023306.

XX (ISIS-) ISIS INNOVATION LTD.

XX Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2001-300179/31.

XX Diagnosing coeliac disease or susceptibility to the disease in an  
 PT individual, by detecting in vitro or in vivo T cells which bind  
 PT immunodominant T cell epitope obtained from naturally occurring homolog  
 PT of gliadin.  
 XX

XX Example 6; Fig 12f; 107pp; English.

XX The sequence is a wheat alpha-gliadin T-cell epitope described in coeliac  
 CC disease. The peptides of the invention are used to test mammalian  
 CC (preferably human) susceptibility to coeliac disease (gluten and T cell  
 CC intolerance). The peptides are contacted with a blood sample and T cell  
 CC recognition measured, a positive T-cell recognition indicating a  
 CC susceptibility to coeliac disease. The peptides are useful for inducing  
 CC tolerance in an individual and antagonists to the peptides are useful for  
 CC treating or preventing coeliac disease in an individual and for producing  
 CC an antibody specific to them or a wild-type sequence. A mutant gliadin  
 CC protein (or its fragment of 15 amino acids in length) whose wild-type  
 CC sequence can be modified by transglutaminase to a sequence that comprises  
 CC the epitope, but which has been modified in such a way that it does not  
 CC contain sequence which can be modified by transglutaminase to a sequence  
 CC that comprise the epitope is useful for decreasing the ability of gliadin  
 CC protein to cause coeliac disease. Nucleic acids encoding proteins  
 CC antagonistic to the T-cell binding of the epitopes are useful for  
 CC obtaining a transgenic plant cell or seed and for the production of a  
 CC protein. The resultant crop plant is useful for obtaining a product of a  
 CC wheat plant, especially grain, which is optionally processed into flour  
 CC or another grain product. Food comprising the antagonistic protein is  
 CC useful instead of a wild-type gliadin  
 CC  
 XX

SQ Sequence 14 AA;

Query Match 100.0%; Score 42; DB 4; Length 14;  
 Best Local Similarity 100.0%; Pred. No. 2.4;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 POPELPY 7  
 |||||  
 1 POPELPY 7

*corrected to match*

## RESULT 33

ID AAE38564 standard; peptide; 14 AA.

XX AAE38564;

XX 04-DEC-2003 (first entry)

XX Wheat peptide #6 used to illustrate the method of the invention.

XX Wheat; therapy; celiac sprue; dermatitis herpetiformis; gluten toxicity;

XX glutenase; foodstuff; antiinflammatory; dermatological.

XX Triticum aestivum.

XX MO2003068170-A2.

XX 21-AUG-2003.

XX 14-FEB-2003; 2003WO-US004743.

XX 14-FEB-2002; 2002US-0357238P.

XX 14-MAY-2002; 2002US-0380761P.

XX 28-JUN-2002; 2002US-0392782P.

XX 31-OCT-2002; 2002US-0425933P.

XX 20-NOV-2002; 2002US-0428033P.

XX 20-DEC-2002; 2002US-0435881P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Hausch F, Gray G, Shan L, Khosla C;

XX WPI; 2003-697466/66.

XX Treating celiac sprue and/or dermatitis herpetiformis comprises

XX administering to a patient a dose of a glutenase that attenuates gluten

XX toxicity in the patient.

XX Disclosure; Page 11; 69pp; English.

XX The present invention relates to a method for treating celiac sprue

XX and/or dermatitis herpetiformis. The method involves administering to a

XX patient a dose of a glutenase that attenuates gluten toxicity in the

XX patient. The method is also useful in treating a foodstuff to render the

XX foodstuff less toxic to a celiac sprue patient. The present sequence is a

XX wheat peptide used to illustrate the method of the invention

XX Sequence 14 AA;

XX Query Match 100.0%; Score 42; DB 7; Length 14;

XX Best Local Similarity 100.0%; Pred. No. 2.4; Mismatches 0; Indels 0; Gaps 0;

XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 POPELPY 7

XX 1 POPELPY 7

## RESULT 34

ID AAE38561 standard; peptide; 14 AA.

XX AAE38561;

XX 04-DEC-2003 (first entry)

XX Wheat peptide #3 used to illustrate the method of the invention.

XX Wheat; therapy; celiac sprue; dermatitis herpetiformis; gluten toxicity;

XX glutenase; foodstuff; antiinflammatory; dermatological.

XX Triticum aestivum.

XX WPI; 2004-043640/04.

XX MO2003068170-A2.

XX 21-AUG-2003.

XX 14-FEB-2003; 2003WO-US004743.

XX 14-FEB-2002; 2002US-0357238P.

XX 14-MAY-2002; 2002US-0380761P.

XX 28-JUN-2002; 2002US-0392782P.

XX 31-OCT-2002; 2002US-0425933P.

XX 20-NOV-2002; 2002US-0428033P.

XX 20-DEC-2002; 2002US-0435881P.

XX (STRD ) UNIV LELAND STANFORD JUNIOR.

XX Hausch F, Gray G, Shan L, Khosla C;

XX WPI; 2003-697466/66.

XX Treating celiac sprue and/or dermatitis herpetiformis comprises

XX administering to a patient a dose of a glutenase that attenuates gluten

XX toxicity in the patient.

XX Claim 4; Page 52; 69pp; English.

XX The present invention relates to a method for treating celiac sprue

XX and/or dermatitis herpetiformis. The method involves administering to a

XX patient a dose of a glutenase that attenuates gluten toxicity in the

XX patient. The method is also useful in treating a foodstuff to render the

XX foodstuff less toxic to a celiac sprue patient. The present sequence is a

XX wheat peptide used to illustrate the method of the invention

XX Sequence 14 AA;

XX Query Match 100.0%; Score 42; DB 7; Length 14;

XX Best Local Similarity 100.0%; Pred. No. 2.4; Mismatches 0; Indels 0; Gaps 0;

XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

XX 1 POPELPY 7

XX 1 POPELPY 7

XX ADH14649 standard; peptide; 14 AA.

XX ADH14649;

XX 11-MAR-2004 (first entry)

XX Gliadin related epitope peptide.

XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

XX vaccine.

XX Synthetic.

XX MO2003104273-A2.

XX 18-DEC-2003.

XX 05-JUN-2003; 2003WO-GH002450.

XX 05-JUN-2002; 2002GB-00012885.

XX (ISIS-) ISIS INNOVATION LTD.

XX Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2004-043640/04.

PT Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.  
XX  
XX  
PS Example 6; Page 80; 177pp; English.  
XX  
XX The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.  
XX  
XX Sequence 14 AA;  
SQ  
Query Match 100.0%; Score 42; DB 8; Length 14;  
Best Local Similarity 100.0%; Pred. No. 2.4;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 PDELPY 7  
DB 1 PDELPY 7  
RESULT 36  
ADH14560  
ID ADH14560 standard; peptide; 14 AA.  
XX  
XX ADH14560;  
AC  
XX  
XX 11-MAR-2004 (first entry)  
DT  
XX  
XX Gliadin related epitope peptide.  
DE  
XX  
XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal  
KM vaccine.  
XX  
XX Synthetic.  
OS  
XX WO2003104273-A2.  
PN  
XX  
XX 18-DEC-2003.  
PD  
XX  
XX 05-JUN-2003; 2003WO-GB002450.  
PE  
XX  
XX 05-JUN-2002; 2002GB-00012885.  
PR  
XX  
XX (ISIS-) ISIS INNOVATION LTD.  
PA  
XX  
XX Anderson RP, Hill AVS, Jewell DP;  
PI  
XX  
XX WPI; 2004-043640/04.  
DR  
XX  
XX Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.  
XX  
XX  
XX Example 14; Page 66; 177pp; English.  
PS  
XX The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic

*post duties*

CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.  
XX  
XX Sequence 14 AA;  
SQ  
Query Match 100.0%; Score 42; DB 8; Length 14;  
Best Local Similarity 100.0%; Pred. No. 2.4;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 PDELPY 7  
DB 1 PDELPY 7  
RESULT 37  
ADH14577  
ID ADH14577 standard; peptide; 14 AA.  
XX  
XX ADH14577;  
AC  
XX  
XX 11-MAR-2004 (first entry)  
DT  
XX  
XX Gliadin related epitope peptide.  
DE  
XX  
XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
KM vaccine.  
XX  
XX Synthetic.  
OS  
XX WO2003104273-A2.  
PN  
XX  
XX 18-DEC-2003.  
PD  
XX  
XX 05-JUN-2003; 2003WO-GB002450.  
PE  
XX  
XX 05-JUN-2002; 2002GB-00012885.  
PR  
XX  
XX (ISIS-) ISIS INNOVATION LTD.  
PA  
XX  
XX Anderson RP, Hill AVS, Jewell DP;  
PI  
XX  
XX WPI; 2004-043640/04.  
DR  
XX  
XX Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.  
XX  
XX  
XX Example 14; Page 71; 177pp; English.  
PS  
XX The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.  
XX  
XX Sequence 14 AA;  
SQ  
Query Match 100.0%; Score 42; DB 8; Length 14;  
Best Local Similarity 100.0%; Pred. No. 2.4;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

*post duties*

QY 1 POPELPHY 7  
 DB 1 POPELPHY 7

## RESULT 38

ADH14574  
 ID ADH14574 standard; peptide; 14 AA.

AC ADH14574;

DT 11-MAR-2004 (first entry)

DE Gliadin related epitope peptide.

KW coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 vaccine.

OS Synthetic.

PN WO2003104273-A2.

PD 18-DEC-2003.

PE 05-JUN-2003; 2003WO-GB002450.

PF 05-JUN-2002; 2002GB-00012885.

PR (ISIS-) ISIS INNOVATION LTD.

PS Anderson RP, Hill AVS, Jewell DP;

PT WPI; 2004-043640/04.

QY Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 cell receptor.

PS Example 14; Page 71; 177p; English.

CC The present invention describes a method (M1) for preventing or treating  
 coeliac disease. M1 comprises administering an agent (A) comprising a  
 gliadin T cell epitope, which is capable of being recognised by a T cell  
 receptor, to an individual. Gliadin is a component of gluten. (A) has  
 gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 be used in the preparation of a medicament for treating or preventing  
 coeliac disease. (A) can also be used in the preparation of a diagnostic  
 means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 disease, in an individual, which involves determining whether T cells of  
 the individual recognise the agent, recognition by the T cells indicating  
 that the individual has, or is susceptible to, coeliac disease. The  
 present sequence represents a peptide which is used in the  
 exemplification of the present invention.

SQ Sequence 14 AA:

Query Match 100.0%; Score 42; DB 8; Length 14;

Best Local Similarity 100.0%; Pred. No. 2.4;

Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPHY 7  
 DB 1 POPELPHY 7

## RESULT 39

ADH16188  
 ID ADH16188 standard; peptide; 14 AA.

AC ADH16188;

DT 11-MAR-2004 (first entry)

DE Gliadin related epitope peptide.

KW coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 vaccine.

OS Synthetic.

PN WO2003104273-A2.

PD 18-DEC-2003.

PE 05-JUN-2003; 2003WO-GB002450.

PF 05-JUN-2002; 2002GB-00012885.

PR (ISIS-) ISIS INNOVATION LTD.

PS Anderson RP, Hill AVS, Jewell DP;

PT WPI; 2004-043640/04.

QY Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 cell receptor.

PS Example 6; Fig 12f; 177p; English.

CC The present invention describes a method (M1) for preventing or treating  
 coeliac disease. M1 comprises administering an agent (A) comprising a  
 gliadin T cell epitope, which is capable of being recognised by a T cell  
 receptor, to an individual. Gliadin is a component of gluten. (A) has  
 gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 be used in the preparation of a medicament for treating or preventing  
 coeliac disease. (A) can also be used in the preparation of a diagnostic  
 means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 disease, in an individual, which involves determining whether T cells of  
 the individual recognise the agent, recognition by the T cells indicating  
 that the individual has, or is susceptible to, coeliac disease. The  
 present sequence represents a peptide which is used in the  
 exemplification of the present invention.

SQ Sequence 14 AA:

Query Match 100.0%; Score 42; DB 8; Length 14;

Best Local Similarity 100.0%; Pred. No. 2.4;

Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPHY 7  
 DB 1 POPELPHY 7

## RESULT 40

ADH14659  
 ID ADH14659 standard; peptide; 15 AA.

AC ADH14659;

DT 11-MAR-2004 (first entry)

DE Gliadin related epitope peptide.

KW coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 vaccine.

OS Synthetic.

PN WO2003104273-A2.

PD 18-DEC-2003.

PE 05-JUN-2003; 2003WO-GB002450.



PR 05-JUN-2002; 2002GB-00012885.  
 PA (ISIS-) ISIS INNOVATION LTD.  
 PI Anderson RP, Hill AVS, Jewell DP;  
 XX  
 XX WPI; 2004-043640/04.  
 DR  
 PT Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.  
 PS  
 PS Example 6; Page 80; 177pp; English.  
 CC The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.  
 SO Sequence 15 AA;  
 Qy Query Match 100.0%; Score 42; DB 6; Length 15;  
 Db Best Local Similarity 100.0%; Pred. No. 2.6; Indels 0; Gaps 0  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0  
 1 POPELPY 7  
 |||||  
 4 POPELPY 10  
 RESULT 41  
 ID ADH14658  
 AC ADH14658 standard; peptide; 15 AA.  
 AC ADH14658;  
 DT 11-MAR-2004 (first entry)  
 XX Gliadin related epitope peptide.  
 DE  
 XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 XX vaccine.  
 KM  
 OS Synthetic.  
 OS  
 PN WO2003104273-A2.  
 PD 18-DEC-2003.  
 PF 05-JUN-2003; 2003WO-GB002450.  
 PF  
 PR 05-JUN-2002; 2002GB-00012885.  
 PR  
 PA (ISIS-) ISIS INNOVATION LTD.  
 PI Anderson RP, Hill AVS, Jewell DP;  
 XX  
 XX WPI; 2004-043640/04.  
 DR  
 PT Preventing or treating coeliac disease comprises administering agent  
 PT which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.  
 PS  
 PS Example 6; Page 80; 177pp; English.

post dolls

The present invention describes a method (M1) for preventing or treating coeliac disease. M1 comprises administering an agent (A) comprising a gliadin T cell epitope, which is capable of being recognised by a T cell receptor, to an individual. Gliadin is a component of gluten. (A) has gastrointestinal activity, and can be used in vaccines. The agent (A) can be used in the preparation of a medicament for treating or preventing coeliac disease. (A) can also be used in the preparation of a diagnostic means for use in diagnosing coeliac disease, or susceptibility to coeliac disease, in an individual, which involves determining whether T cells of the individual recognise the agent, recognition by the T cells indicating that the individual has, or is susceptible to, coeliac disease. The present sequence represents a peptide which is used in the exemplification of the present invention.

Sequence 15 AA;

Query Match		100.0%;	Score 42;	DB 8;	Length 15;
Best Local Similarity		100.0%;	Pred. No. 2 6;		
Matches	7;	Conservative	0;	Mismatches	0; Indels 0; Gaps 0;

CY            1 P Q E L P Y P Y 7  
             |||||  
Db            4 P Q E L P Y P Y 10

RESULT 42

AAU01804	AAU01804 standard; protein; 17 AA.
AC	AAU01804;
XX	07-SEP-2001 (first entry)
DE	Wheat A-gliadin 57-73, E57, 65, 72 mutant peptide.
KX	Wheat; A-Gliadin; E57, 65, 72; coeliac disease; gluten intolerance;
KW	T-cell binding; antagonist; transglutaminase; transgenic plant; mutein.
OS	Triticum aestivum.
PN	WO200125793-A2.
PD	12-APR-2001.
PF	02-OCT-2000; 2000WO-CB003760.
PR	01-OCT-1999; 99GB-00023306.
PA	(ISIS-) ISIS INNOVATION LTD.
PI	Anderson RP, Hill AVS, Jewell DP;
DR	WPI, 2001-300179/31.
XX	
PT	Diagnosing coeliac disease or susceptibility to the disease in an individual, by detecting in vitro or in vivo T cells which bind immunodominant T cell epitope obtained from naturally occurring homolog of gliadin.
PS	Disclosure; Page 4, 107pp; English.
XX	
CC	The sequence represents wheat A-gliadin T-cell epitope E57, 65, 72 which has Glu substituted with Gln at positions corresponding to 57, 65 and 72 of the full length A-gliadin. The peptides of the invention are used to test mammalian (preferably human) susceptibility to coeliac disease (gluten intolerance). The peptides are contacted with a blood sample and T cell recognition measured, a positive T-cell recognition indicating a susceptibility to coeliac disease. The peptides are useful for inducing tolerance in an individual and antagonists to the peptides are useful for treating or preventing coeliac disease in an individual and for producing an antibody specific to them or a wild-type sequence. A mutant gliadin protein (or its fragment of 15 amino acids in length) whose wild-type

*overlaid to insert*

converts  
to instant

CC sequence can be modified by transglutaminase to a sequence that comprises  
 CC the epitope, but which has been modified in such a way that it does not  
 CC contain sequence which can be modified by transglutaminase to a sequence  
 CC that comprises the epitope is useful for decreasing the ability of gliadin  
 CC protein to cause Coeliac disease. Nucleic acids encoding proteins  
 CC antagonistic to the T-cell binding of the epitopes are useful for  
 CC obtaining a transgenic plant cell or seed and for the production of a  
 CC protein. The resultant crop plant is useful for obtaining a product of a  
 CC wheat plant, especially grain, which is optionally processed into flour  
 CC or another grain product. Food comprising the antagonistic protein is  
 CC useful instead of a wild-type gliadin

SO Sequence 17 AA;

Query Match 100.0%; Score 42; DB 4; Length 17;  
 Best Local Similarity 100.0%; Pred. No. 2.9;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PGPRLPY 7  
 DB 6 PGPRLPY 12

RESULT 43

AAU01832  
 ID AAU01832 standard; peptide; 17 AA.

AC AAU01832;

DT 07-SRP-2001 (first entry)

DE Gliadin T-cell epitope described in coeliac disease.

KM Wheat; gliadin; T-cell epitope; coeliac disease; gluten intolerance;  
 KM antagonist; transglutaminase; transgenic plant.

OS Triticum aestivum.

PN MO200125793-A2.

PD 12-APR-2001.

PF 02-OCT-2000; 2000WO-GB003760.

PR 01-OCT-1999; 99GB-00023306.

PA (ISIS-) ISIS INNOVATION LTD.

PI Anderson RP, Hill AVS, Jewell DP;

DR WPI; 2001-300179/31.

PT Diagnosing coeliac disease or susceptibility to the disease in an  
 PT individual, by detecting in vitro or in vivo T cells which bind  
 PT immunodominant T cell epitope obtained from naturally occurring homolog  
 PT of gliadin.

PS Example 6; Fig 12b; 107bp; English.

CC The sequence is a wheat gliadin T-cell epitope described in coeliac  
 CC disease. The peptides of the invention are used to test mammalian  
 CC (preferably human) susceptibility to coeliac disease (gluten  
 CC intolerance). The peptides are contacted with a blood sample and T cell  
 CC recognition measured, a positive T-cell recognition indicating a  
 CC susceptibility to coeliac disease. The peptides are useful for inducing  
 CC tolerance in an individual and antagonists to the peptides are useful for  
 CC treating or preventing coeliac disease in an individual and for producing  
 CC an antibody specific to them or a wild-type sequence. A mutant gliadin  
 CC protein (or its fragment of 15 amino acids in length) whose wild-type  
 CC sequence can be modified by transglutaminase to a sequence that comprises  
 CC the epitope, but which has been modified in such a way that it does not  
 CC contain sequence which can be modified by transglutaminase to a sequence  
 CC that comprises the epitope is useful for decreasing the ability of gliadin

CC protein to cause Coeliac disease. Nucleic acids encoding proteins  
 CC antagonistic to the T-cell binding of the epitopes are useful for  
 CC obtaining a transgenic plant cell or seed and for the production of a  
 CC protein. The resultant crop plant is useful for obtaining a product of a  
 CC wheat plant, especially grain, which is optionally processed into flour  
 CC or another grain product. Food comprising the antagonistic protein is  
 CC useful instead of a wild-type gliadin

SO Sequence 17 AA;

Query Match 100.0%; Score 42; DB 4; Length 17;  
 Best Local Similarity 100.0%; Pred. No. 2.9;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PGPRLPY 7  
 DB 6 PGPRLPY 12

RESULT 44

AAU01843  
 ID AAU01843 standard; peptide; 17 AA.

AC AAU01843;

DT 07-SRP-2001 (first entry)

DE Wheat peptide antagonist for A-gliadin 57-73 Q665 #5.

KM Wheat; A-gliadin; 57-75 Q665; coeliac disease; gluten intolerance;  
 KM T-cell binding; antagonist; transglutaminase; transgenic plant.

OS Triticum aestivum.

PN MO200125793-A2.

PD 12-APR-2001.

PF 02-OCT-2000; 2000WO-GB003760.

PR 01-OCT-1999; 99GB-00023306.

PA (ISIS-) ISIS INNOVATION LTD.

PI Anderson RP, Hill AVS, Jewell DP;

DR WPI; 2001-300179/31.

PT Diagnosing coeliac disease or susceptibility to the disease in an  
 PT individual, by detecting in vitro or in vivo T cells which bind  
 PT immunodominant T cell epitope obtained from naturally occurring homolog  
 PT of gliadin.

PS Example 11; Page 58; 107bp; English.

CC The sequence represents a gliadin peptide corresponding to A-gliadin 57-  
 CC 73 which is naturally polymorphic in that region and is antagonistic to A  
 CC -gliadin 57-73 Q665 interferon gamma ELISPOT (not defined) response. The  
 CC peptides of the invention are used to test mammalian (preferably human)  
 CC susceptibility to coeliac disease (gluten intolerance). The peptides are  
 CC contacted with a blood sample and T-cell recognition measured, a positive  
 CC T-cell recognition indicating a susceptibility to coeliac disease. The  
 CC peptides are useful for inducing tolerance in an individual and  
 CC antagonists to the peptides are useful for treating or preventing coeliac  
 CC disease in an individual and for producing an antibody specific to them  
 CC or a wild-type sequence. A mutant gliadin protein (or its fragment of 15  
 CC amino acids in length) whose wild-type sequence can be modified by  
 CC transglutaminase to a sequence that comprises the epitope, but which has  
 CC been modified in such a way that it does not contain sequence which can  
 CC be modified by transglutaminase to a sequence that comprises the epitope  
 CC is useful for decreasing the ability of gliadin protein to cause Coeliac  
 CC disease. Nucleic acids encoding proteins antagonistic to the T-cell  
 CC binding of the epitopes are useful for obtaining a transgenic plant cell



OY 1 POPELPY 7  
| | | | |  
Db 6 POPELPY 12

## RESULT 46

AAU01803 standard; protein; 17 AA.

AAU01803;

07-SEP-2001 (first entry)

Wheat A-gliadin 57-73, E65, 72 mutant peptide.

Wheat; A-gliadin; E65, 72; coeliac disease; gluten intolerance; gluten T-cell binding; antagonist; transglutaminase; transgenic plant; mutein.

Triticum aestivum.

MO200125793-A2.

12-APR-2001.

02-OCT-2000; 2000MO-SB003760.

01-OCT-1999; 99GB-00023306.

(ISIS-) ISIS INNOVATION LTD.

Anderson RP, Hill AVS, Jewell DP;

WPI; 2001-300179/31.

Diagnosing coeliac disease or susceptibility to the disease in an individual, by detecting in vitro or in vivo T cells which bind immunodominant T cell epitope obtained from naturally occurring homolog of gliadin.

Disclosure; Page 4; 107pp; English.

The sequence represents wheat A-gliadin T-cell epitope E65, 72, which has Glu substituted with Glu at positions corresponding to 65 and 72 of the full length A-gliadin. The peptides of the invention are used to test mammalian (preferably human) susceptibility to coeliac disease (gluten intolerance). The peptides are contacted with a blood sample and T cell recognition measured, a positive T-cell recognition indicating a susceptibility to coeliac disease. The peptides are useful for inducing tolerance in an individual and antagonists to the peptides are useful for treating or preventing coeliac disease in an individual and for producing an antibody specific to them or a wild-type sequence. A mutant gliadin protein (or its fragment of 15 amino acids in length) whose wild-type sequence can be modified by transglutaminase to a sequence that comprises the epitope, but which has been modified in such a way that it does not contain a sequence which can be modified by transglutaminase to a sequence that comprises the epitope is useful for decreasing the ability of gliadin protein to cause Coeliac disease. Nucleic acids encoding proteins antagonistic to the T-cell binding of the epitopes are useful for obtaining a transgenic plant cell or seed and for the production of a protein. The resultant crop plant is useful for obtaining a product of a wheat plant, especially grain, which is optionally processed into flour or another grain product. Food comprising the antagonistic protein is useful instead of a wild-type gliadin

Sequence 17 AA;

Query Match 100.0%; Score 42; DB 4; Length 17;

Best Local Similarity 100.0%; Pred. No. 2.9; Mismatches 0; Indels 0; Gaps 0;

OY 1 POPELPY 7  
| | | | |  
Db 6 POPELPY 12

## RESULT 47

AAU01802 standard; protein; 17 AA.

AAU01802;

07-SEP-2001 (first entry)

Wheat A-gliadin 57-73, E57, 65 mutant peptide.

Wheat; A-gliadin; E57, 65; coeliac disease; gluten intolerance; gluten T-cell binding; antagonist; transglutaminase; transgenic plant; mutein.

Triticum aestivum.

MO200125793-A2.

12-APR-2001.

02-OCT-2000; 2000MO-SB003760.

01-OCT-1999; 99GB-00023306.

(ISIS-) ISIS INNOVATION LTD.

Anderson RP, Hill AVS, Jewell DP;

WPI; 2001-300179/31.

Diagnosing coeliac disease or susceptibility to the disease in an individual, by detecting in vitro or in vivo T cells which bind immunodominant T cell epitope obtained from naturally occurring homolog of gliadin.

Disclosure; Page 4; 107pp; English.

The sequence represents wheat A-gliadin T-cell epitope E57, 65, which has Glu substituted with Glu at positions corresponding to 57 and 65 of the full length A-gliadin. The peptides of the invention are used to test mammalian (preferably human) susceptibility to coeliac disease (gluten intolerance). The peptides are contacted with a blood sample and T cell recognition measured, a positive T-cell recognition indicating a susceptibility to coeliac disease. The peptides are useful for inducing tolerance in an individual and antagonists to the peptides are useful for treating or preventing coeliac disease in an individual and for producing an antibody specific to them or a wild-type sequence. A mutant gliadin protein (or its fragment of 15 amino acids in length) whose wild-type sequence can be modified by transglutaminase to a sequence that comprises the epitope, but which has been modified in such a way that it does not contain a sequence which can be modified by transglutaminase to a sequence that comprises the epitope is useful for decreasing the ability of gliadin protein to cause Coeliac disease. Nucleic acids encoding proteins antagonistic to the T-cell binding of the epitopes are useful for obtaining a transgenic plant cell or seed and for the production of a protein. The resultant crop plant is useful for obtaining a product of a wheat plant, especially grain, which is optionally processed into flour or another grain product. Food comprising the antagonistic protein is useful instead of a wild-type gliadin

Sequence 17 AA;

Query Match 100.0%; Score 42; DB 4; Length 17;

Best Local Similarity 100.0%; Pred. No. 2.9; Mismatches 0; Indels 0; Gaps 0;

OY 1 POPELPY 7  
| | | | |  
Db 6 POPELPY 12

## RESULT 48

ADH14516  
ID ADH14516 standard; peptide; 17 AA.  
XX  
XX ADH14516;  
AC  
DT 11-MAR-2004 (first entry)  
DE Gliadin related epitope peptide SEQ ID NO:6.  
XX  
XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
KW vaccine.  
XX  
OS Synthetic.

WO2003104273-A2.  
PN  
PP 18-DEC-2003.  
XX  
PE 05-JUN-2003; 2003WO-GB002450.  
XX  
PR 05-JUN-2002; 2002GB-00012885.  
PA (ISIS-) ISIS INNOVATION LTD.  
PI Anderson RP, Hill AVS, Jewell DP;  
PT MPI; 2004-043640/04.  
DR  
PS Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
cell receptor.  
XX

Example 1; SEQ ID NO 6; 177bp; English.  
XX  
XX The present invention describes a method (M1) for preventing or treating  
XX coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.  
XX  
XX

Sequence 17 AA;  
SQ

Query Match 100.0%; Score 42; DB 8; Length 17;  
Best Local Similarity 100.0%; Pred.No. 2.9;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0

Gy 1 POPELPY 7  
|||  
Db 6 POPELPY 12

RESULT 49  
ADH14564  
ID ADH14564 standard; peptide; 17 AA.  
XX  
XX ADH14564;  
AC  
DT 11-MAR-2004 (first entry)  
DE Gliadin related epitope peptide.  
XX  
XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
KW vaccine.  
XX  
OS Synthetic.

*Past date*

WO2003104273-A2.  
 18-DEC-2003.  
 05-JUN-2003; 2003WO-GB002450.  
 05-JUN-2002; 2002GB-00012885.  
 (ISIS-) ISIS INNOVATION LTD.  
 Anderson RP, Hill AVS, Jewell DP;  
 WPI; 2004-043640/04.  
 Preventing or treating coeliac disease comprises administering agent T which are wheat gliadin T cell epitope capable of being recognized by T cell receptor.  
 Example 14; Page 69; 177pp; English.  
 The present invention describes a method (M1) for preventing or treating coeliac disease. M1 comprises administering an agent (A) comprising a gliadin T cell epitope, which is capable of being recognised by a T cell receptor, to an individual. Gliadin is a component of gluten. (A) has gastrointestinal activity, and can be used in vaccines. The agent (A) can be used in the preparation of a medicament for treating or preventing coeliac disease. (A) can also be used in the preparation of a diagnostic means for use in diagnosing coeliac disease, or susceptibility to coeliac disease, in an individual, which involves determining whether T cells of the individual recognise the agent, recognition by the T cells indicating that the individual has, or is susceptible to, coeliac disease. The present sequence represents a peptide which is used in the exemplification of the present invention.  
 Sequence 17 AA;  
 Query Match 100.0%; Score 42; DB 8; Length 17;  
 Best Local Similarity 100.0%; Pred. No. 2.9; Indels 0; Gaps 0.  
 Matches 7; Conservative 0; Mismatches 0.  
 QY 1 POPPELPY 7  
 |||||  
 DB 6 POPPELPY 12  
 RESULT 50  
 ADH14512  
 ID ADH14512 standard; peptide; 17 AA.  
 AC ADH14512;  
 DT 11-MAR-2004 (first entry)  
 DE Gliadin related epitope peptide SEQ ID NO:2.  
 XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 KW vaccine.  
 OS Synthetic.  
 FN WO2003104273-A2.  
 PD 18-DEC-2003.  
 PF 05-JUN-2003; 2003WO-GB002450.  
 PR 05-JUN-2002; 2002GB-00012885.  
 PA (ISIS-) ISIS INNOVATION LTD.  
 PI Anderson RP, Hill AVS, Jewell DP;  
 XX



Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPY 7  
| | | | |  
| | | | |  
Db 6 POPELPY 12

## RESULT 53

ADH14518  
ID ADH14518 standard; peptide; 17 AA.

XX ADH14518;

XX 11-MAR-2004 (first entry)

XX Gliadin related epitope peptide SEQ ID NO:8.

XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

XX vaccine.

XX Synthetic.

XX WO2003104273-A2.

XX 18-DEC-2003.

XX 05-JUN-2003; 2003WO-GB002450.

XX 05-JUN-2002; 2002GB-00012885.

XX (ISIS-) ISIS INNOVATION LTD.

XX Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2004-043640/04.

XX Preventing or treating coeliac disease comprises administering agent

XX PT which are wheat gliadin T cell epitope capable of being recognized by T

XX cell receptor.

XX Example 1; SEQ ID NO 8; 177pp; English.

XX The present invention describes a method (M1) for preventing or treating  
XX coeliac disease. M1 comprises administering an agent (A) comprising a  
XX gliadin T cell epitope, which is capable of being recognised by a T cell  
XX receptor, to an individual. Gliadin is a component of gluten. (A) has  
XX been used in the preparation of a medicament for treating or preventing  
XX coeliac disease. (A) can also be used in the preparation of a diagnostic  
XX means for use in diagnosing coeliac disease, or susceptibility to coeliac  
XX disease, in an individual, which involves determining whether T cells of  
XX the individual recognise the agent, recognition by the T cells indicating  
XX that the individual has, or is susceptible to, coeliac disease. The  
XX present sequence represents a peptide which is used in the  
XX exemplification of the present invention.

XX Sequence 17 AA;

QY Query Match 100.0%; Score 42; DB 8; Length 17;  
Best Local Similarity 100.0%; Pred. No. 2.9; 0; Indels 0; Gaps 0;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPY 7  
| | | | |  
| | | | |  
Db 6 POPELPY 12

## RESULT 54

ADH16182  
ID ADH16182 standard; peptide; 17 AA.

XX ADH16182;

DT 11-MAR-2004 (first entry)

XX Gliadin related epitope peptide.

XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

XX vaccine.

XX Synthetic.

XX WO2003104273-A2.

XX 18-DEC-2003.

XX 05-JUN-2003; 2003WO-GB002450.

XX 05-JUN-2002; 2002GB-00012885.

XX (ISIS-) ISIS INNOVATION LTD.

XX Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2004-043640/04.

XX Preventing or treating coeliac disease comprises administering agent

XX PT which are wheat gliadin T cell epitope capable of being recognized by T

XX cell receptor.

XX Example 6; Fig 12a; 177pp; English.

XX The present invention describes a method (M1) for preventing or treating  
XX coeliac disease. M1 comprises administering an agent (A) comprising a  
XX gliadin T cell epitope, which is capable of being recognised by a T cell  
XX receptor, to an individual. Gliadin is a component of gluten. (A) has  
XX been used in the preparation of a medicament for treating or preventing  
XX coeliac disease. (A) can also be used in the preparation of a diagnostic  
XX means for use in diagnosing coeliac disease, or susceptibility to coeliac  
XX disease, in an individual, which involves determining whether T cells of  
XX the individual recognise the agent, recognition by the T cells indicating  
XX that the individual has, or is susceptible to, coeliac disease. The  
XX present sequence represents a peptide which is used in the  
XX exemplification of the present invention.

XX Sequence 17 AA;

QY Query Match 100.0%; Score 42; DB 8; Length 17;  
Best Local Similarity 100.0%; Pred. No. 2.9; 0; Indels 0; Gaps 0;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPY 7  
| | | | |  
| | | | |  
Db 6 POPELPY 12

## RESULT 55

ADH14557  
ID ADH14557 standard; peptide; 17 AA.

XX ADH14557;

XX 11-MAR-2004 (first entry)

XX Gliadin related epitope peptide.

XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

XX vaccine.

XX Synthetic.

XX WO2003104273-A2.

XX 18-DEC-2003.

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PF      05-JUN-2003; 2003WO-GB002450.
PR      05-JUN-2002; 2002GB-00012885.
PA      (ISIS-) ISIS INNOVATION LTD.
PD      Anderson RP, Hill AVS, Jewell DP;
PE      MPI; 2004-043640/04.
PY      Example 14; Page 65; 177pp; English.
PG      The present invention describes a method (M) for preventing or treating
PH      coeliac disease. M comprises administering an agent (A) comprising a
PI      gliadin T cell epitope, which is capable of being recognised by a T cell
PJ      receptor, to an individual. Gliadin is a component of gluten. (A) has
PK      gastrointestinal activity, and can be used in vaccines. The agent (A) can
PL      be used in the preparation of a medicament for treating or preventing
PM      coeliac disease. (A) can also be used in the preparation of a diagnostic
PN      means for use in diagnosing coeliac disease, or susceptibility to coeliac
PO      disease, in an individual, which involves determining whether T cells of
PP      the individual recognise the agent, recognition by the T cells indicating
PQ      that the individual has, or is susceptible to, coeliac disease. The
PR      present sequence represents a peptide which is used in the
PS      exemplification of the present invention.
PT      Sequence 17 AA:
PU
PV      Query Match          100.0%; Score 42; DB 8; Length 17;
PW      Best Local Similarity 100.0%; Pred. No. 2.9;
PX      Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
PY
PZ      1 POPELPY 7
QA      |||||
QB      6 POPELPY 12
QC
QD      RESULT 56
QE      ADHI4653
QF      ADHI4653 standard; peptide; 17 AA.
QG
QH      ADHI4653;
QI      11-MAR-2004 (first entry)
QJ
QK      Gliadin related epitope peptide.
QL      coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;
QM      vaccine.
QN      Synthetic.
QO      WO2003104273-A2.
QP
QR      18-DEC-2003.
QS      05-JUN-2003; 2003WO-GB002450.
QT      05-JUN-2002; 2002GB-00012885.
QU      (ISIS-) ISIS INNOVATION LTD.
QV      Anderson RP, Hill AVS, Jewell DP;
QW      MPI; 2004-043640/04.
QX
QY      Preventing or treating coeliac disease comprises administering agent
QZ      A which are wheat gliadin T cell epitope capable of being recognized by T
RA      cell receptor.

```

Example 5, Page 80, 177pp; English.

The present invention describes a method (M1) for preventing or treating coeliac disease. M1 comprises administering an agent (A) comprising a gliadin T cell epitope, which is capable of being recognised by a T cell receptor, to an individual. Gliadin is a component of gluten. (A) has gastrointestinal activity, and can be used in vaccines. The agent (A) can be used in the preparation of a medicament for treating or preventing coeliac disease. (A) can also be used in the preparation of a diagnostic means for use in diagnosing coeliac disease, or susceptibility to coeliac disease, in an individual, which involves determining whether T cells of the individual recognise the agent, recognition by the T cells indicating

Query Match 100.0%; Score 42; DB 8; Length 17;  
Best Local Similarity 100.0%; Pred. No. 2.9;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0

1 PORELPL 7  
|||||||  
6 PORELPL 12

RESULT 57  
ADH16183  
ID ADH16183 standard; peptide; 17 AA.  
AC ADH16183;  
XX 11-MAR-2004 (first entry)  
DT Gliadin related epitope peptide.  
XX  
XX  
XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
XX vaccine.  
XX  
XX Synthetic.  
XX WO2003104273-A2.  
XX  
XX 18-DEC-2003.  
PD  
XX  
XX 05-JUN-2003; 2003WO-GB002450.  
PF  
XX 05-JUN-2002; 2002GB-00012885.  
XX  
XX (ISIS-) ISIS INNOVATION LTD.  
PA  
XX  
XX Anderson RP, Hill AVS, Jewell DP,  
PI WPI; 2004-043640/04.  
XX  
XX  
XX  
XX  
XX Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.  
XX  
XX  
XX  
XX  
XX Example 6; Fig 12b; 177pp; English.  
XX  
XX The present invention describes a method (M1) for preventing or treating  
XX coeliac disease. M1 comprises administering an agent (A) comprising a  
XX gliadin T cell epitope, which is capable of being recognised by a T cell  
XX receptor, to an individual. Gliadin is a component of gluten. (A) has  
XX gastrointestinal activity, and can be used in vaccines. The agent (A) can  
XX be used in the preparation of a medicament for treating or preventing  
XX coeliac disease. (A) can also be used in the preparation of a diagnostic  
XX means for use in diagnosing coeliac disease, or susceptibility to coeliac  
XX disease, in an individual, which involves determining whether T cells of  
XX the individual recognise the agent, recognition by the T cells indicating



CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.

XX  
SQ Sequence 17 AA;

Query Match 100.0%; Score 42; DB 8; Length 17;  
Best Local Similarity 100.0%; Pred. No. 2.9;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PPELPY 7  
|||  
DB 6 PPELPY 12

RESULT 56  
ADH14517  
ID ADH14517 standard; peptide; 17 AA.

XX ADH14517;  
XX 11-MAR-2004 (first entry)  
XX Gliadin related epitope peptide SEQ ID NO:7.

XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
XX vaccine.

XX Synthetic.

XX WO2003104273-A2.

XX 18-DEC-2003.

XX 05-JUN-2003; 2003WO-GB002450.

XX 05-JUN-2002; 2002GB-00012885.

XX (ISIS-) ISIS INNOVATION LTD.

XX Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2004-043640/04.

XX Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.

XX Example 1; SEQ ID NO 7; 177bp; English.

XX The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.

XX Sequence 17 AA;

Query Match 100.0%; Score 42; DB 8; Length 17;  
Best Local Similarity 100.0%; Pred. No. 2.9;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PPELPY 7  
|||  
DB 6 PPELPY 12

RESULT 59  
ADH14633  
ID ADH14633 standard; peptide; 17 AA.

XX ADH14633;  
XX 11-MAR-2004 (first entry)  
XX Gliadin related epitope peptide.

XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
XX vaccine.

XX Synthetic.

XX WO2003104273-A2.

XX 18-DEC-2003.

XX 05-JUN-2003; 2003WO-GB002450.

XX 05-JUN-2002; 2002GB-00012885.

XX (ISIS-) ISIS INNOVATION LTD.

XX Anderson RP, Hill AVS, Jewell DP;

XX WPI; 2004-043640/04.

XX Preventing or treating coeliac disease comprises administering agent  
PT which are wheat gliadin T cell epitope capable of being recognized by T  
PT cell receptor.

XX Example 15; Page 75; 177bp; English.

XX The present invention describes a method (M1) for preventing or treating  
CC coeliac disease. M1 comprises administering an agent (A) comprising a  
CC gliadin T cell epitope, which is capable of being recognised by a T cell  
CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
CC be used in the preparation of a medicament for treating or preventing  
CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
CC disease, in an individual, which involves determining whether T cells of  
CC the individual recognise the agent, recognition by the T cells indicating  
CC that the individual has, or is susceptible to, coeliac disease. The  
CC present sequence represents a peptide which is used in the  
CC exemplification of the present invention.

XX Sequence 17 AA;

Query Match 100.0%; Score 42; DB 8; Length 17;  
Best Local Similarity 100.0%; Pred. No. 2.9;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 PPELPY 7  
|||  
DB 6 PPELPY 12

RESULT 60  
ADH14693  
ID ADH14693 standard; peptide; 17 AA.

XX ADH14693;

XX 11-MAR-2004 (first entry)

XX Gliadin related epitope peptide.

XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

KW vaccine.  
 XX  
 PI Synthetic.  
 OS  
 XX MO2003104273-A2.  
 PN  
 XX 18-DEC-2003.  
 PD  
 XX 05-JUN-2003; 2003WO-GB002450.  
 PF  
 XX 05-JUN-2002; 2002GB-00012885.  
 PR  
 XX (ISIS-) ISIS INNOVATION LTD.  
 PS  
 XX Anderson RP, Hill AVS, Jewell DP;  
 XX WPI; 2004-043640/04.  
 DR  
 XX Preventing or treating coeliac disease comprises administering agent  
 PE which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.  
 CC  
 XX Example 11; Page 84; 177pp; English.  
 PS  
 XX The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.  
 CC  
 SO Sequence 17 AA;  
 Query Match 100.0%; Score 42; DB 8; Length 17;  
 Best Local Similarity 100.0%; Pred. No. 2.9;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 POPPELPY 7  
 DB 6 POPPELPY 12  
 RESULT 61  
 ADH14539  
 ID ADH14539 standard; peptide; 17 AA.  
 AC ADH14539;  
 XX  
 XX 11-MAR-2004 (first entry)  
 DT  
 XX Control peptide SEQ ID NO:29.  
 DE  
 XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 KW vaccine.  
 XX  
 XX Synthetic.  
 OS  
 XX MO2003104273-A2.  
 PN  
 XX 18-DEC-2003.  
 PD  
 XX 05-JUN-2003; 2003WO-GB002450.  
 PF  
 XX 05-JUN-2002; 2002GB-00012885.  
 PR  
 XX (ISIS-) ISIS INNOVATION LTD.  
 PS  
 XX Anderson RP, Hill AVS, Jewell DP;  
 XX WPI; 2004-043640/04.  
 DR  
 XX Preventing or treating coeliac disease comprises administering agent  
 PE which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.  
 CC  
 XX Example 14; Page 66; 177pp; English.  
 PS  
 XX The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a

XX Anderson RP, Hill AVS, Jewell DP;  
 PI WPI; 2004-043640/04.  
 DR  
 XX Preventing or treating coeliac disease comprises administering agent  
 PE which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.  
 CC  
 XX Example 13; SEQ ID NO 29; 177pp; English.  
 PS  
 XX The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.  
 CC  
 SO Sequence 17 AA;  
 Query Match 100.0%; Score 42; DB 8; Length 17;  
 Best Local Similarity 100.0%; Pred. No. 2.9;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 POPPELPY 7  
 DB 6 POPPELPY 12  
 RESULT 62  
 ADH14558  
 ID ADH14558 standard; peptide; 17 AA.  
 AC ADH14558;  
 XX  
 XX 11-MAR-2004 (first entry)  
 DT  
 XX Gliadin related epitope peptide.  
 DE  
 XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 KW vaccine.  
 XX  
 XX Synthetic.  
 OS  
 XX MO2003104273-A2.  
 PN  
 XX 18-DEC-2003.  
 PD  
 XX 05-JUN-2003; 2003WO-GB002450.  
 PF  
 XX 05-JUN-2002; 2002GB-00012885.  
 PR  
 XX (ISIS-) ISIS INNOVATION LTD.  
 PS  
 XX Anderson RP, Hill AVS, Jewell DP;  
 XX WPI; 2004-043640/04.  
 DR  
 XX Preventing or treating coeliac disease comprises administering agent  
 PE which are wheat gliadin T cell epitope capable of being recognized by T  
 PT cell receptor.  
 CC  
 XX Example 14; Page 66; 177pp; English.  
 PS  
 XX The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a

CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.

Sequence 17 AA;

Query Match 100.0%; Score 42; DB 8; Length 17;  
 Best Local Similarity 100.0%; Pred. No. 2.9;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPY 7  
 |||||  
 DB 6 POPELPY 12

RESULT 63

ADH14537  
 ID ADH14537 standard; peptide; 17 AA.

AC ADH14537;

XX 11-MAR-2004 (first entry)

DE Control peptide SEQ ID NO:27.

XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

KW vaccine.

XX Synthetic.

XX WO2003104273-A2.

PN 18-DEC-2003.

XX 05-JUN-2003; 2003WO-GB002450.

PF 05-JUN-2002; 2002GB-00012885.

PR (ISIS-) ISIS INNOVATION LTD.

PA Anderson RP, Hill AVS, Jewell DP,

PI WPI; 2004-043640/04.

XX Preventing or treating coeliac disease comprises administering agent

PT which are wheat gliadin T cell epitope capable of being recognized by T

PT cell receptor.

Example 13; SEQ ID NO 27; 177pp; English.

CC The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.

Sequence 17 AA;

Query Match 100.0%; Score 42; DB 8; Length 17;  
 Best Local Similarity 100.0%; Pred. No. 2.9;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPY 7  
 |||||  
 DB 6 POPELPY 12

RESULT 64

ADH14575  
 ID ADH14575 standard; peptide; 17 AA.

AC ADH14575;

XX 11-MAR-2004 (first entry)

DE Gliadin related epitope peptide.

XX coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

KW vaccine.

XX Synthetic.

XX WO2003104273-A2.

PN 18-DEC-2003.

XX 05-JUN-2003; 2003WO-GB002450.

PR 05-JUN-2002; 2002GB-00012885.

PA (ISIS-) ISIS INNOVATION LTD.

PI Anderson RP, Hill AVS, Jewell DP,

XX WPI; 2004-043640/04.

XX Preventing or treating coeliac disease comprises administering agent

PT which are wheat gliadin T cell epitope capable of being recognized by T

PT cell receptor.

Example 14; Page 71; 177pp; English.

CC The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.

Sequence 17 AA;

Query Match 100.0%; Score 42; DB 8; Length 17;  
 Best Local Similarity 100.0%; Pred. No. 2.9;  
 Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPY 7  
 |||||  
 DB 6 POPELPY 12

RESULT 65

AAU01807  
 ID AAU01807 standard; peptide; 20 AA.

XX AC AAU01807;  
 XX DT 07-SBP-2001 (first entry)  
 XX DE Wheat A-gliadin 56-75 transglutaminase treated peptide.  
 XX KW Wheat; A-gliadin; 56-75 peptide; coeliac disease; gluten intolerance;  
 XX KW T-cell binding; antagonist; transglutaminase; transgenic plant.  
 XX OS Triticum aestivum.  
 XX PN WO200125793-A2.  
 XX PD 12-APR-2001.  
 XX PF 02-OCT-2000; 2000WO-GB003760.  
 XX PR 01-OCT-1999; 99GB-00023306.  
 XX PA (ISIS-) ISIS INNOVATION LTD.  
 XX PI Anderson RP, Hill AVS, Jewell DP;  
 XX DR WPI; 2001-300179/31.  
 XX PT Diagnosing coeliac disease or susceptibility to the disease in an  
 XX PT individual, by detecting in vitro or in vivo T cells which bind  
 XX PT immunodominant T cell epitope obtained from naturally occurring homolog  
 XX PT of gliadin.  
 XX PS Example 3; Page 40; 107pp; English.  
 CC The sequence represents wheat A-gliadin 56-75 peptide, which has been  
 CC treated with transglutaminase resulting in the Glu at position  
 CC corresponding to 65 in the full length A-gliadin being converted Glu. The  
 CC peptides of the invention are used to test mammalian (preferably human)  
 CC susceptibility to coeliac disease (gluten intolerance). The peptides are  
 CC contacted with a blood sample and T cell recognition measured, a positive  
 CC T-cell recognition indicating a susceptibility to coeliac disease. The  
 CC peptides are useful for inducing tolerance in an individual and  
 CC antagonists to the peptides are useful for treating or preventing coeliac  
 CC disease in an individual and for producing an antibody specific to them  
 CC or a wild-type sequence. A mutant gliadin protein (or its fragment of 15  
 CC amino acids in length) whose wild-type sequence can be modified by  
 CC transglutaminase to a sequence that comprises the epitope, but which has  
 CC been modified in such a way that it does not contain sequence which can  
 CC be modified by transglutaminase to a sequence that comprise the epitope  
 CC is useful for decreasing the ability of gliadin protein to cause Coeliac  
 CC disease. Nucleic acids encoding proteins antagonistic to the T-cell  
 CC binding of the epitopes are useful for obtaining a transgenic plant cell  
 CC or seed and for the production of a protein. The resultant crop plant is  
 CC useful for obtaining a product of a wheat plant, especially grain, which  
 CC is optionally processed into flour or another grain product. Food  
 CC comprising the antagonistic protein is useful instead of a wild-type  
 CC gliadin  
 XX  
 XX Sequence 20 AA;  
 XX  
 XX Query Match 100.0%; Score 42; DB 4; Length 20;  
 XX Best Local Similarity 100.0%; Pred. No. 3.4; Indels 0; Gaps 0;  
 XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 POPPLPY 7  
 XX |||||  
 DB 7 POPPLPY 13  
 XX  
 XX RESULT 66  
 XX ADH14521  
 XX ADH14521 standard; peptide; 20 AA.  
 XX  
 XX ADH14521;

*converted to matches*

XX DT 11-MAR-2004 (first entry)  
 XX DE Gliadin related epitope peptide SEQ ID NO:11.  
 XX KW coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 XX KW vaccine.  
 XX OS Synthetic.  
 XX PN WO2003104273-A2.  
 XX PD 18-DEC-2003.  
 XX PF 05-JUN-2003; 2003WO-GB002450.  
 XX PR 05-JUN-2002; 2002GB-00012895.  
 XX PA (ISIS-) ISIS INNOVATION LTD.  
 XX PI Anderson RP, Hill AVS, Jewell DP;  
 XX DR WPI; 2004-043640/04.  
 XX PT Preventing or treating coeliac disease comprises administering agent  
 XX PT which are wheat gliadin T cell epitope capable of being recognized by T  
 XX PT cell receptor.  
 XX PS Example 4; SEQ ID NO 11; 177pp; English.  
 CC The present invention describes a method (M1) for preventing or treating  
 CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor, to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a peptide which is used in the  
 CC exemplification of the present invention.  
 XX  
 XX Sequence 20 AA;  
 XX  
 XX Query Match 100.0%; Score 42; DB 8; Length 20;  
 XX Best Local Similarity 100.0%; Pred. No. 3.4; Indels 0; Gaps 0;  
 XX Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 POPPLPY 7  
 XX |||||  
 DB 7 POPPLPY 13  
 XX  
 XX RESULT 67  
 XX ADF91350  
 XX ADF91350 standard; peptide; 33 AA.  
 XX  
 XX ADF91350;  
 XX 26-FEB-2004 (first entry)  
 XX  
 XX High affinity peptide substrate for tTGase.  
 XX  
 XX Dermatology; neuroprotective; cytoskeletal; vulnary; anticonvulsant;  
 XX KW neurotropic; antiparkinsonian; tranquiliser; antiinflammatory;  
 KW immunosuppressive; coeliac sprue; dermatitis herpetiformis;  
 KW tissue transglutaminase; tTGase; inhibitor; gluten;  
 KW neurological disorder; cancer; wound healing; Huntington's disease;  
 KW Alzheimer's disease; Parkinson's disease; food intolerance.  
 XX  
 XX Unidentified.

*part of data*

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us-10-089-700-1.rag

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*Post Sales*

XX WO2003096979-A2.  
PN 27-NOV-2003.  
XX 14-MAY-2003; 2003WO-US015343.  
XX 14-MAY-2002; 2002US-0380761P.  
XX 28-JUN-2002; 2002US-0392782P.  
PR 31-OCT-2002; 2002US-0422933P.  
PR 20-NOV-2002; 2002US-0428033P.  
XX (STRD ) UNIV LELAND STANFORD JUNIOR.  
PA Khosla C, Hausch F, Parrot I, Shan L;  
XX WPI; 2004-098857/10.  
XX Method useful for treatment of celiac sprue and/or dermatitis  
PT herpeticiformis involves the use of tissue transglutaminase (tTGase)  
PT inhibitor to attenuate gluten toxicity.  
XX Disclosure; Page 9; 37pp; English.  
PS The invention relates to a method for the treatment of celiac sprue  
XX and/or dermatitis herpeticiformis, involving the administration of tissue  
CC transglutaminase (tTGase) inhibitor to attenuate gluten toxicity in the  
CC patient. The method of the invention is useful for the treatment of  
CC celiac sprue and dermatitis herpeticiformis, or for the treatment of a  
CC disorder where tissue transglutaminase is a factor in disease etiology,  
CC such as a neurological disorder, cancer or wound healing. The method or  
CC the invention is also useful in the treatment of progressive supranuclear  
CC palsy, Huntington's, Alzheimer's and Parkinson's diseases, the aberrant  
CC activation of tTGases may be caused by oxidative stress and inflammation.  
CC The formulation reduces the toxic effects of toxic gluten oligopeptides,  
CC thus attenuating or eliminates the damaging effects of gluten. The  
CC formulation allows the celiac sprue individual to eat gluten-containing  
CC foodstuffs without ill effect, or at least to tolerate such foodstuffs in  
CC small or moderate quantities without inducing relapse. The current  
CC sequence represents a high affinity peptide substrate for tTGase that  
CC acts as a glutenase resistant peptide. This peptide contains a glutamine  
CC formed by deamination.  
XX  
SQ Sequence 33 AA;  
Query Match 100.0%; Score 42; DB 8; Length 33;  
Best Local Similarity 100.0%; Pred. No. 5.6;  
Matches 7; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
CY 1 PQLPLPY 7  
DB 7 PQLPLPY 13

Search completed: December 15, 2004, 15:37:07  
Job time : 153 secs

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OM protein - protein search, using sw model

Run on: December 14, 2004, 16:56:07; Search time 13.7083 Seconds  
(Without alignments)  
49.132 Million cell updates/sec

Title: US-10-089-700-1

Perfect score: 42

Sequence: 1 PQLPLPY 7

Scoring table: BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database:

1: p1r1:\*  
2: p1r2:\*  
3: p1r3:\*  
4: p1r4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length DB	ID	Description
1	39	92.9	286	1 EEWTA	alpha/beta-gliadin
2	39	92.9	286	2 S07923	alpha/beta-gliadin
3	39	92.9	291	2 T06498	alpha/beta-gliadin
4	39	92.9	297	2 T06500	alpha/beta-gliadin
5	39	92.9	307	2 S10015	alpha/beta-gliadin
6	39	92.9	326	2 D23364	alpha/beta-gliadin
7	37	88.1	541	1 S45428	PB112 protein - y
8	37	85.7	165	2 E86537	hypothetical prote
9	36	85.7	165	2 D72085	hypothetical prote
10	36	85.7	208	2 S36155	paired box protein
11	36	85.7	342	2 S57652	transcription fact
12	36	85.7	361	2 A40023	paired box homolog
13	35	83.3	289	2 T52354	hypothetical prote
14	35	83.3	306	2 G96014	hypothetical prote
15	35	83.3	332	2 T20107	hypothetical prote
16	35	83.3	437	2 T00127	hypothetical prote
17	35	83.3	461	2 J04972	steroidogenic fact
18	35	83.3	666	2 S75289	ribonuclease II -
19	35	83.3	686	2 AB2362	ribonuclease II (i
20	35	83.3	769	2 S55554	male-specific leih
21	35	83.3	781	2 T26080	hypothetical prote
22	35	83.3	787	2 S09411	DNA translocase sp
23	35	83.3	788	2 G88901	hypothetical prote
24	34	81.0	213	1 D70416	phosphoglycolate p
25	34	81.0	254	2 A87582	conjugal transfer
26	34	81.0	348	2 T04184	hypothetical prote
27	34	81.0	326	2 AG1860	hypothetical prote
28	33	78.6	162	2 A48464	filarial antigen S
29	33	78.6	261	2 AB2966	conserved hypothet

30	33	78.6	261	2 B98317	ATP synthase chain
31	33	78.6	285	2 G72415	sensor histidine x
32	33	78.6	355	2 D64336	hypothetical prote
33	33	78.6	403	2 E82496	probable transcrip
34	33	78.6	405	2 F72492	hypothetical prote
35	33	78.6	540	2 UC4916	signal transducing
36	33	78.6	558	2 S57953	CASP protein alpha
37	33	78.6	966	2 G70838	probable mmp11 pr
38	33	78.6	1025	1 DENCED	glutamate dehydrog
39	33	78.6	1192	2 T33157	hypothetical prote
40	33	78.6	2108	2 H70819	probable polykercid
41	32	76.2	92	1 MNWVPM	P10 protein - Orxy
42	32	76.2	92	2 T10402	protein p10 - Orxy
43	32	76.2	100	2 S26728	hypothetical prote
44	32	76.2	119	1 Q0BE23	BLRF3 protein - hu
45	32	76.2	162	2 T07173	hypothetical prote

#### ALIGNMENTS

##### RESULT 1

EEWTA  
alpha/beta-gliadin precursor - wheat

N/Alternate names: prolamin

C/Species: Triticum aestivum (common wheat)

C/Date: 28-May-1986 #sequence\_\_revision 28-May-1986 #text\_\_change 09-Jul-2004

C/Accession: A03354

R/Rafalski, J.A.; Scheets, K.; Metzler, M.; Peterson, D.M.; Hedgcock, C.; Soll, D.G.

EMBO J. 3, 1409-1415, 1984

A/Title: Developmentally regulated plant genes: the nucleotide sequence of a wheat gli

A/Reference number: A03354; PMID:84261434; PMID:6204862

A/Molecule type: DNA

A/Residues: 1-286 <RAF>

A/Cross-references: UNIPROT:P02863; GB:X00627; GB:X03076; NID:921752; PIDN:CA025261.1;

A/Experimental source: cv. Newton

C/Comment: Gliadin is the major seed storage protein in wheat.

C/Keywords: storage protein; tandem repeat

F/1-20/Domain: signal sequence #status predicted <SIG>

F/16-108/Region: 6-residue repeats ([QP]-Q-Q-P-[FY]-P)

F/21-286/Product: gliadin #status predicted <GIN>

F/116-133/Region: glutamine-rich

Db

Cy

Query Match

Best Local Similarity

Matches

Score 39; DB 1; Length 286;

Pred. No. 8.4; Indels 0; Gaps 0;

Mismatches 1; Mismatches 0;

Query Match

Best Local Similarity

Matches

Score 39; DB 1; Length 286;

Pred. No. 8.4; Indels 0; Gaps 0;

Mismatches 1; Mismatches 0;

Query Match

Best Local Similarity

Matches

Score 39; DB 2; Length 286;

Pred. No. 8.4; Indels 0; Gaps 0;

Mismatches 1; Mismatches 0;

Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 POPPLPY 7  
| | | | |  
| | | | |  
Db 82 POPPLPY 88

## RESULT 3

T06498

alpha/beta-gliadin A-II precursor - wheat

C:Species: Triticum aestivum (common wheat)

C:Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #text\_change 09-Jul-2004

C:Accession: T06498

R:Okita, T.W.; Cheesbrough, V.; Reeves, C.D.

J. Biol. Chem. 260, 8203-8213, 1985

A:Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA

A:Reference number: A92541; MUID:85234522; PMID:2989281

A:Accession: T06498

A:Status: translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-291 &lt;OKI&gt;

A:Cross-references: UNIPROT:P04722; EMBL:M10092; NID:G170711; P1DN:AAA34276.1; PID:G1707

C:Superfamily: gliadin

C:Keywords: seed; storage protein

F:1-20/Domain: signal sequence #status predicted &lt;SIG&gt;

F:21-291/Product: alpha/beta-gliadin A-II #status predicted &lt;MAT&gt;

Query Match 92.9%; Score 39; DB 2; Length 291;

Best Local Similarity 85.7%; Pred. No. 8.5;

Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 POPPLPY 7  
| | | | |  
| | | | |  
Db 82 POPPLPY 88

## RESULT 4

T06500

alpha/beta-gliadin A-IV precursor - wheat

C:Species: Triticum aestivum (common wheat)

C:Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #text\_change 09-Jul-2004

C:Accession: T06500

R:Okita, T.W.; Cheesbrough, V.; Reeves, C.D.

J. Biol. Chem. 260, 8203-8213, 1985

A:Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA

A:Reference number: A92541; MUID:85234522; PMID:2989281

A:Accession: T06500

A:Status: translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-297 &lt;OKI&gt;

A:Cross-references: UNIPROT:P04724; EMBL:M11075; NID:G170723; P1DN:AAA34282.1; PID:G1707

C:Superfamily: gliadin

C:Keywords: seed; storage protein

F:1-20/Domain: signal sequence #status predicted &lt;SIG&gt;

F:21-297/Product: alpha/beta-gliadin A-IV #status predicted &lt;MAT&gt;

Query Match 92.9%; Score 39; DB 2; Length 297;

Best Local Similarity 85.7%; Pred. No. 8.7;

Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 POPPLPY 7  
| | | | |  
| | | | |  
Db 82 POPPLPY 88

## RESULT 5

S10015

alpha/beta-gliadin precursor (clone MM1) - wheat

C:Species: Triticum aestivum (common wheat)

C:Date: 31-Dec-1990 #sequence\_revision 31-Dec-1990 #text\_change 09-Jul-2004

C:Accession: S10015

R:Garcia-Maroto, F.; Marana, C.; Garcia-Olmedo, F.; Carbonero, P.

Plant Mol. Biol. 14, 867-868, 1990

A:Title: Nucleotide sequence of a cDNA encoding an alpha/beta-type gliadin from hexaploid

A:Reference number: S10015; MUID:91346679; PMID:2102865

A:Accession: S10015

A:Molecule type: mRNA

A:Residues: 1-307 &lt;GAR&gt;

A:Cross-references: UNIPROT:P18573; EMBL:X17361; NID:G21672; P1DN:CAA35238.1; PID:G2167

C:Superfamily: gliadin

F:1-20/Domain: signal sequence #status predicted &lt;SIG&gt;

F:21-307/Product: alpha/beta-gliadin #status predicted &lt;MAT&gt;

Query Match 92.9%; Score 39; DB 2; Length 307;

Best Local Similarity 85.7%; Pred. No. 9.1;

Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 POPPLPY 7  
| | | | |  
| | | | |  
Db 82 POPPLPY 88

## RESULT 6

D22364

alpha/beta-gliadin precursor (clone A735) - wheat

C:Species: Triticum aestivum (common wheat)

C:Date: 31-Dec-1988 #sequence\_revision 31-Dec-1988 #text\_change 09-Jul-2004

C:Accession: D22364

R:Okita, T.W.; Cheesbrough, V.; Reeves, C.D.

J. Biol. Chem. 260, 8203-8213, 1985

A:Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA

A:Reference number: A92541; MUID:85234522; PMID:2989281

A:Accession: D22364

A:Molecule type: mRNA

A:Residues: 1-326 &lt;OKI&gt;

A:Cross-references: UNIPROT:P04724

C:Superfamily: gliadin

F:1-20/Domain: signal sequence #status predicted &lt;SIG&gt;

F:21-326/Product: alpha/beta-gliadin #status predicted &lt;MAT&gt;

Query Match 92.9%; Score 39; DB 2; Length 326;

Best Local Similarity 85.7%; Pred. No. 9.7;

Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 POPPLPY 7  
| | | | |  
| | | | |  
Db 94 POPPLPY 100

## RESULT 7

S45428

PRT12 protein - yeast (Saccharomyces cerevisiae)

N:Alternate names: protein YBL0724; protein YBL080C

C:Species: Saccharomyces cerevisiae

C:Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 09-Jul-2004

C:Accession: S45428; S45821; S41997; S59225; S41792

R:Obermaier, B.; Gassenhuber, J.; Pivavandi, E.; Domdey, H.

submitted to the EMBL Data Library, May 1994

A:Description: Sequence analysis of a 78.6 kb segment of the left end of Saccharomyces

A:Reference number: S45387

A:Accession: S45428

A:Molecule type: DNA

A:Residues: 1-541 &lt;OBM&gt;

A:Cross-references: UNIPROT:P33893; EMBL:X79489; NID:G496661; PID:G496701

R:Domdey, H.; Gassenhuber, J.; Obermaier, B.; Pivavandi, E.

submitted to the Protein Sequence Database, August 1994

A:Reference number: S45816

A:Accession: S45821

A:Molecule type: DNA

A:Residues: 1-541 &lt;DOM&gt;

A:Cross-references: EMBL:X79489; NID:G536128; PID:G536129; GSPDB:GN00002; MIPS:YBL080C

R:Mulero, J.J.; Rosenthal, J.K.; Fox, T.D.

Curr. Genet. 25, 299-304, 1994

A:Title: PRT12, a Saccharomyces cerevisiae nuclear gene required to maintain rho(+)

A:Reference number: S41997; MUID:94363744; PMID:8082172

A:Accession: S41997



A/Molecule type: DNA  
 A/Residues: 1-114, 'P', 416-541 <MUL>  
 A/Cross-references: EMBL:112072; NID:G347492; PIDN:AG37508.1; PID:G347493  
 R/Opmater: B.; Gassenhuber, J.; Piravandi, E.; Dondy, H.  
 A/Title: Sequence analysis of a 78.6 kb segment of the left end of *Saccharomyces cerevisiae*  
 A/Reference number: S5184; MUID:9607635; PMID:7502586  
 A/Accession: S59225  
 A/Status: nucleic acid sequence not shown; translation not shown  
 A/Molecule type: DNA  
 A/Residues: 1-541 <OBW>  
 A/Cross-references: EMBL:X79489; NID:G496661; PIDN:CAA56028.1; PID:G496701  
 A/Note: The nucleotide sequence was submitted to the EMBL Data Library, May 1994  
 C/Genetics:  
 A/Gene: SGD:PET112; MIPS:YBL080C  
 A/Cross-references: SGD:S0000176; MIPS:YBL080C  
 A/Map position: 2L  
 C/Function:  
 A/Description: involved in mitochondrial gene expression, probably in translation  
 C/Superfamily: PET112 protein  
 C/Keywords: mitochondrion; transmembrane protein  
 F/77-93/Domain: transmembrane #status predicted <TMM>

Query Match  
 Best Local Similarity 88.1%; Score 37; DB 1; Length 541;  
 Best Local Similarity 85.7%; Pred. No. 40;  
 Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 POPELRY 7  
 |||||  
 Db 302 FDPRLPY 308

RESULT 8  
 E86537  
 hypochlorite protein CPJ0375 [imported] - *Chlamydomonas reinhardtii* (strain J138)  
 C/Species: *Chlamydomonas reinhardtii*, *Chlamydomonas reinhardtii*  
 C/Date: 02-Mar-2001 #sequence\_revision 02-Mar-2001 #text\_change 09-Jul-2004  
 C/Accession: E86537  
 R/Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishida, F.; Ouchi, K.; Shiba, T.; Ishii, T.  
 Nucleic Acids Res. 28, 2311-2314, 2000  
 A/Title: Comparison of whole genome sequences of *Chlamydomonas reinhardtii* J138.  
 A/Reference number: A86491; MUID:20330349; PMID:10871362  
 A/Accession: E86537  
 A/Status: preliminary  
 A/Molecule type: DNA  
 A/Residues: 1-165 <STO>  
 A/Cross-references: UNIPROT:Q9J5F4; GB:BA000008; NID:G8978747; PIDN:BA98583.1; GSPDB:GX  
 A/Experimental source: strain J138  
 C/Genetics:  
 A/Gene: CPJ0375

Query Match  
 Best Local Similarity 85.7%; Score 36; DB 2; Length 165;  
 Best Local Similarity 71.4%; Pred. No. 16;  
 Matches 5; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELRY 7  
 |||||  
 Db 133 PKPELRY 139

RESULT 9  
 D7085  
 hypothetical protein CP0381 [imported] - *Chlamydomonas reinhardtii* (strains CML029 and AR  
 C/Species: *Chlamydomonas reinhardtii*, *Chlamydomonas reinhardtii*  
 C/Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #text\_change 09-Jul-2004  
 C/Accession: D72085; B81582  
 R/Salmun, S.; Mitchell, W.; Marache, R.; Lammell, C.; Fan, J.; Olinger, L.; Grimwood, J.;  
 Nature Genet. 21, 385-389, 1999  
 A/Title: Comparative genomes of *Chlamydomonas reinhardtii* and *C. trachomatis*.  
 A/Reference number: A72000; MUID:99206606; PMID:10192388  
 A/Accession: D72085  
 A/Status: preliminary  
 A/Molecule type: DNA

A/Residues: 1-165 <ARN>  
 A/Cross-references: UNIPROT:Q928G8; GB:AE001622; GB:AE001363; NID:G4376652; PIDN:AD1851  
 A/Experimental source: strain CML029  
 R/Read, T.D.; Brunham, R.C.; Shen, C.; Gill, S.R.; Heidelberg, J.F.; White, O.; Hickey,  
 C.; Dodson, R.; Gwinn, M.; Nelson, W.; DeBoy, R.; Kolonay, J.; McClarty, G.; Salzberg,  
 Nucleic Acids Res. 28, 1397-1406, 2000  
 A/Title: Genome sequences of *Chlamydia trachomatis* Mopn and *Chlamydia pneumoniae* AR39.  
 A/Reference number: A81500; MUID:20150255; PMID:10684935  
 A/Accession: B91582  
 A/Status: preliminary  
 A/Molecule type: DNA  
 A/Residues: 1-165 <REA>  
 A/Cross-references: GB:AE002200; GB:AE002161; NID:G7189305; PIDN:AA938228.1; PID:G718930  
 A/Experimental source: strain AR39, HL cells  
 C/Genetics:  
 A/Gene: CPN0375; CP0381

Query Match  
 Best Local Similarity 85.7%; Score 36; DB 2; Length 165;  
 Best Local Similarity 71.4%; Pred. No. 16;  
 Matches 5; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELRY 7  
 |||||  
 Db 133 PKPELRY 139

RESULT 10  
 S36155  
 paired box protein PAX9 - human  
 C/Species: *Homo sapiens* (man)  
 C/Date: 20-Feb-1995 #sequence\_revision 20-Feb-1995 #text\_change 21-Jan-2000  
 C/Accession: S36155  
 R/Stapleton, P.; Welch, A.; Urbanek, P.; Kozmik, Z.; Bueslinger, M.  
 Nature Genet. 3, 292-298, 1993  
 A/Title: Chromosomal localization of seven PAX genes and cloning of a novel family memb  
 A/Reference number: S36155; MUID:95072651; PMID:7981748  
 A/Accession: S36155  
 A/Status: preliminary  
 A/Molecule type: DNA  
 A/Residues: 1-208 <STA>  
 A/Cross-references: EMBL:L09745  
 C/Genetics:  
 A/Gene: GDB:PAX9  
 A/Cross-references: GDB:138774; OMIM:167416  
 A/Map position: 14q12-14q13  
 C/Superfamily: paired box transcription factor Pax-8; paired box homology  
 F/2-126/Domain: paired box homology <PBH>

Query Match  
 Best Local Similarity 85.7%; Score 36; DB 2; Length 208;  
 Best Local Similarity 71.4%; Pred. No. 21;  
 Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 POPELRY 7  
 |||||  
 Db 148 FQPLRY 154

RESULT 11  
 S57652  
 transcription factor - mouse  
 C/Species: *Mus musculus* (house mouse)  
 C/Date: 19-Oct-1995 #sequence\_revision 03-Nov-1995 #text\_change 09-Jul-2004  
 C/Accession: I48740; I48706; S57652  
 R/Neubauer, A.; Koseki, H.; Balling, R.  
 Dev. Biol. 170, 701-716, 1995  
 A/Title: Characterization and developmental expression of Pax9, a paired-box-containing  
 A/Reference number: I48740; MUID:95377555; PMID:7649395  
 A/Accession: I48740  
 A/Status: translated from GB/EMBL/DDBJ  
 A/Molecule type: mRNA  
 A/Residues: 1-342 <RSS>  
 A/Cross-references: UNIPROT:P47242; EMBL:X64000; NID:G868892; PIDN:CAA58824.1; PID:G8896  
 R/Mallin, J.; Mizutani, Y.; Imai, K.; Miyashita, N.; Moriuchi, K.; Taniguchi, M.; Koseki

Mamm. Genome 4, 354-358, 1993  
 A>Title: A new Pax gene, Pax-9, maps to mouse chromosome 12.  
 A'Reference number: 148706; MUID:93364111; PMID:8358189  
 A'Accession: 148706  
 A>Status: preliminary; translated from GB/EMBL/DBJ  
 A'Molecule type: DNA  
 A'Resides: 19-111 <EE2>  
 A'Cross-references: EMBL:X73037; NID:g398815; PIDN:CAA51518.1; PID:g939951

C'Genetics:  
 A'Gene: Pax9  
 C'Superfamily: paired box transcription factor Pax-8; paired box homology  
 F.4.128/Domain: paired box homology <PBH>

Query Match 85.7%; Score 36; DB 2; Length 342;  
 Best Local Similarity 85.7%; Pred. No. 36;  
 Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 POPELPY 7  
 ||| |||  
 DB 150 POPALPY 156

## RESULT 12

A'Accession: A40023  
 Paired box homolog PAX1 - mouse  
 C'Species: Mus musculus (house mouse)  
 C'Date: 17-Jan-1992 #sequence\_revision 17-Jan-1992 #text\_change 09-Jul-2004  
 C'Accession: A40023  
 R'Galapagos, G.; Fritsch, R.; Fickenscher, H.; Deutsch, U.; Goulding, M.; Gruss, P.  
 Cell 66, 873-884, 1991  
 A>Title: The molecular basis of the undulated/Pax-1 mutation.  
 A'Reference number: A40023; MUID:91364170; PMID:1889089  
 A'Accession: A40023  
 A>Status: preliminary  
 A'Molecule type: mRNA  
 A'Resides: 1-361 <CBA>  
 A'Cross-references: UNIPROT:P09084; GB:M69222; NID:g200223; PIDN:AAA39868.1; PID:g200224  
 C'Superfamily: paired box transcription factor Pax-8; paired box homology  
 C'Keywords: DNA binding; transcription regulation  
 F.4.128/Domain: paired box homology <PBH>

Query Match 85.7%; Score 36; DB 2; Length 361;  
 Best Local Similarity 85.7%; Pred. No. 39;  
 Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 POPELPY 7  
 ||| |||  
 DB 148 POPALPY 154

## RESULT 13

A'Accession: T52354  
 Hypothetical protein B1E6.30 [imported] - Neurospora crassa  
 C'Species: Neurospora crassa  
 C'Date: 20-Oct-2000 #sequence\_revision 20-Oct-2000 #text\_change 09-Jul-2004  
 C'Accession: T52354  
 R'Schulte, U.; Aign, V.; Hohelsel, U.; Brandt, P.; Fartmann, B.; Holland, R.; Nyakatura, G.  
 Submitted to the Protein Sequence Database, September 2000  
 A'Reference number: Z26053  
 A'Accession: T52354  
 A>Status: preliminary  
 A'Molecule type: DNA  
 A'Resides: 1-289 <SCH>  
 A'Cross-references: UNIPROT:Q9RHU3; EMBL:AL42043; GSPDB:GN00116; NCSP:B1E6.30  
 A'Experimental source: BAC clone B1E6; strain OR74A  
 C'Genetics:  
 A'Gene: NCSP:B1E6.30  
 A'Map position: 6

Query Match 83.3%; Score 35; DB 2; Length 289;  
 Best Local Similarity 71.4%; Pred. No. 46;  
 Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 POPELPY 7  
 ||| |||  
 DB 188 POPSLPY 194

## RESULT 14

G96014  
 Hypothetical protein [imported] - Sinorhizobium meliloti (strain 1021) megaplasmid pSym  
 C'Species: Sinorhizobium meliloti  
 C'Date: 24-Aug-2001 #sequence\_revision 24-Aug-2001 #text\_change 09-Jul-2004  
 C'Accession: G96014  
 R'Finan, T.M.; Weidner, S.; Wong, K.; Buhrmester, J.; Chain, P.; Vorholter, F.J.; Hemma  
 Proc. Natl. Acad. Sci. U.S.A. 98, 9889-9894, 2001  
 A>Title: The complete sequence of the 1,683-kb pSymB megaplasmid from the N2-fixing endo  
 A'Reference number: A95842; MUID:21396508; PMID:11481431  
 A'Accession: G96014  
 A>Status: preliminary  
 A'Molecule type: DNA  
 A'Resides: 1-306 <KUR>  
 A'Cross-references: UNIPROT:Q92TW2; GB:AL591985; PIDN:CAC49783.1; PID:G15141270; GSPDB:  
 A'Experimental source: strain 1021, megaplasmid pSymB  
 R'Galibert, F.; Finan, T.M.; Long, S.R.; Punler, A.; Abola, P.; Ampe, F.; Barclay-Hubler  
 pela, D.; Chain, P.; Cowie, A.; Davis, R.W.; Dreano, S.; Federspiel, N.A.; Fisher, R.  
 L.; Hyman, R.W.; Jones, T.  
 Science 293, 668-672, 2001  
 A'Authors: Kahn, D.; Kahn, M.L.; Kalman, S.; Keating, D.H.; Kiss, E.; Komp, C.; Leisner  
 hebbalt, P.; Vandenbol, M.; Vorholter, F.J.; Weidner, S.; Wells, D.H.; Wong, K.; Ye  
 A>Title: The composite genome of the legume symbiont Sinorhizobium meliloti.  
 A'Reference number: A96039; MUID:21368234; PMID:11474104  
 A'Contents: annotation  
 C'Genetics:  
 A'Gene: SMD20676  
 A'Genome: plasmid

Query Match 83.3%; Score 35; DB 2; Length 306;  
 Best Local Similarity 100.0%; Pred. No. 49;  
 Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELPY 6  
 ||| |||  
 DB 85 POPELPY 90

## RESULT 15

T20107  
 Hypothetical protein CSOP4.10 - Caenorhabditis elegans  
 C'Species: Caenorhabditis elegans  
 C'Date: 15-Oct-1999 #sequence\_revision 15-Oct-1999 #text\_change 09-Jul-2004  
 C'Accession: T20107  
 R'McMurray, A.  
 Submitted to the EMBL Data Library, April 1996  
 A'Reference number: Z19225  
 A'Accession: T20107  
 A>Status: preliminary; translated from GB/EMBL/DBJ  
 A'Molecule type: DNA  
 A'Resides: 1-332 <WIL>  
 A'Cross-references: UNIPROT:Q18738; EMBL:Z70750; PIDN:CAA94735.1; GSPDB:GN00023; CESB:  
 A'Experimental source: clone CSOP4  
 C'Genetics:  
 A'Gene: CESP:CSOP4.10  
 A'Map position: 5  
 A'Introns: 75/3; 120/3; 193/3; 303/3  
 C'Superfamily: kinase-related transforming protein; protein kinase homology

Query Match 83.3%; Score 35; DB 2; Length 332;  
 Best Local Similarity 85.7%; Pred. No. 54;  
 Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 POPELPY 7  
 ||| |||  
 DB 313 POPELPY 319

Wed Dec 15 10:01:54 2004

Search completed: December 14, 2004, 17:01:51  
Job time : 15.7083 secs

us-10-089-700-1.rpr

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OM protein - protein search, using sw model

Run on: December 14, 2004, 16:56:07 ; Search time 15.75 Seconds  
(without alignments)  
29.475 Million cell updates/sec

Title: US-10-089-700-1

Perfect score: 42

Sequence: 1 PQLPLPY 7

Scoring table: BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 478139 seqs, 66318000 residues

Total number of hits satisfying chosen parameters: 478139

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database:

1: Issued Patents\_AA\*  
2: /cgn2\_6/ptodata/1/aa/5A.COMB.pep.\*  
3: /cgn2\_6/ptodata/1/aa/5B.COMB.pep.\*  
4: /cgn2\_6/ptodata/1/aa/6A.COMB.pep.\*  
5: /cgn2\_6/ptodata/1/aa/6B.COMB.pep.\*  
6: /cgn2\_6/ptodata/1/aa/6C.COMB.pep.\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	39	92.9	242	4	US-09-270-767-61492
2	39	92.9	790	4	US-09-270-767-45954
3	36	85.7	168	4	US-09-198-452A-391
4	36	85.7	246	4	US-09-248-796A-23501
5	36	85.7	337	4	US-08-930-830B-2
6	36	85.7	342	4	US-08-930-830B-5
7	35	83.3	67	4	US-09-270-767-61826
8	35	83.3	110	4	US-09-270-767-40381
9	35	83.3	110	4	US-09-270-767-55597
10	35	83.3	170	4	US-09-252-991A-23935
11	35	83.3	386	4	US-09-270-767-46258
12	35	83.3	450	2	US-08-611-280-25
13	35	83.3	450	2	US-09-195-940-25
14	35	83.3	450	3	US-09-562-466-25
15	35	83.3	451	3	US-08-654-482-14
16	35	83.3	745	4	US-09-710-279-1742
17	35	83.3	746	2	US-08-785-431-4
18	35	83.3	746	2	US-09-205-048-4
19	35	83.3	788	2	US-08-785-431-2
20	35	83.3	788	3	US-09-205-048-2
21	35	83.3	798	3	US-09-134-001C-4917
22	35	83.3	1053	4	US-09-252-991A-26140
23	34	81.0	494	4	US-09-543-681A-7142
24	33	78.6	54	3	US-08-301-162-12
25	33	78.6	54	3	US-09-461-240-12
26	33	78.6	54	3	US-09-968-927-12
27	33	78.6	118	4	US-09-489-039A-12813

28	33	78.6	213	3	US-08-911-853-13	Sequence 13, Appl
29	33	78.6	213	3	US-09-479-409-13	Sequence 13, Appl
30	33	78.6	213	3	US-09-479-453-13	Sequence 13, Appl
31	33	78.6	267	3	US-08-301-162-16	Sequence 16, Appl
32	33	78.6	267	3	US-09-461-240-15	Sequence 16, Appl
33	33	78.6	267	4	US-09-968-927-15	Sequence 16, Appl
34	33	78.6	328	4	US-09-328-352-6269	Sequence 54, Appl
35	33	78.6	398	3	US-09-303-064-54	Sequence 54, Appl
36	33	78.6	398	3	US-09-086-503-54	Sequence 291, Appl
37	33	78.6	568	3	US-09-188-930-291	Sequence 291, Appl
38	33	78.6	568	4	US-09-312-283C-291	Sequence 16439, A
39	33	78.6	811	4	US-09-617-099B-1	Sequence 1, Appl
40	33	78.6	1590	4	US-09-248-796A-14211	Sequence 14211, A
41	32	76.2	69	4	US-09-634-238-316	Sequence 316, Appl
42	32	76.2	85	4	US-09-198-452A-1034	Sequence 1034, Ap
43	32	76.2	127	4	US-09-270-767-57185	Sequence 57185, A
44	32	76.2	138	4	US-09-270-767-41935	Sequence 41935, A
45	32	76.2	209	4	US-09-270-767-41935	Sequence 41935, A

#### ALIGNMENTS

RESULT 1  
US-09-270-767-61492  
Sequence 61492, Application US/09270767  
Patent No. 6703491  
GENERAL INFORMATION:  
APPLICANT: Homburger et al.  
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster  
FILE REFERENCE: File Reference: 7326-094  
CURRENT APPLICATION NUMBER: US/09/270,767  
CURRENT FILING DATE: 1999-03-17  
NUMBER OF SEQ ID NOS: 62517  
SOFTWARE: PatentIn Ver. 2.0  
SEQ ID NO 61492  
LENGTH: 242  
TYPE: PRT  
ORGANISM: Drosophila melanogaster  
FEATURES:  
OTHER INFORMATION: Xaa means any amino acid  
US-09-270-767-61492  
Query Match  
Best Local Similarity 92.9%; Score 39; DB 4; Length 242;  
Best Local Similarity 85.7%; Pred. No. 27;  
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
Query 1 PQLPLPY 7  
Db 232 PQLPLPY 238  
RESULT 2  
US-09-270-767-45954  
Sequence 45954, Application US/09270767  
Patent No. 6703491  
GENERAL INFORMATION:  
APPLICANT: Homburger et al.  
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster  
FILE REFERENCE: File Reference: 7326-094  
CURRENT APPLICATION NUMBER: US/09/270,767  
CURRENT FILING DATE: 1999-03-17  
NUMBER OF SEQ ID NOS: 62517  
SOFTWARE: PatentIn Ver. 2.0  
SEQ ID NO 45954  
LENGTH: 790  
TYPE: PRT  
ORGANISM: Drosophila melanogaster  
FEATURES:  
OTHER INFORMATION: Xaa means any amino acid  
US-09-270-767-45954  
Query Match  
92.9%; Score 39; DB 4; Length 790;

Best Local Similarity 85.7%; Pred. No. 91;  
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPPLPY 7  
|||:|  
DB 330 POPPLPY 336

RESULT 3  
US-09-198-452A-391

Sequence 391, Application US/09198452A  
Patent No. 6559294

GENERAL INFORMATION:

APPLICANT: Griffiths, R.

TITLE OF INVENTION: Chlamydia pneumoniae genomic sequence and polypeptides, fragments thereof and uses thereof, in particular for the diagnosis, prevention and treatment of infection

FILE REFERENCE: 9710-003-999

CURRENT APPLICATION NUMBER: US/09/198,452A

PRIOR FILING DATE: 1998-11-24

NUMBER OF SEQ ID NOS: 6849

SEQ ID NO 391

LENGTH: 168

TYPE: PRT

ORGANISM: Chlamydia pneumoniae

FEATURE:

LOCATION: 1...168

OTHER INFORMATION: Xaa=unknown or other

US-09-198-452A-391

Query Match 85.7%; Score 36; DB 4; Length 168;  
Best Local Similarity 71.4%; Pred. No. 59;  
Matches 5; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPPLPY 7  
|||:|  
DB 136 PKPRIPY 142

RESULT 4  
US-09-248-796A-23501

Sequence 23501, Application US/09248796A

Patent No. 6747137

GENERAL INFORMATION:

APPLICANT: Keith Weinstock et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN

FILE REFERENCE: 107196.132

CURRENT APPLICATION NUMBER: US/09/248,796A

PRIOR FILING DATE: 1999-02-12

PRIOR APPLICATION NUMBER: US 60/074,725

PRIOR FILING DATE: 1998-02-13

PRIOR APPLICATION NUMBER: US 60/096,409

PRIOR FILING DATE: 1998-08-13

NUMBER OF SEQ ID NOS: 28208

SEQ ID NO 23501

LENGTH: 246

TYPE: PRT

ORGANISM: Candida albicans

US-09-248-796A-23501

Query Match 85.7%; Score 36; DB 4; Length 246;  
Best Local Similarity 85.7%; Pred. No. 87;  
Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 POPPLPY 7  
|||:|  
DB 175 PTPPLPY 181

RESULT 5  
US-08-930-830B-2

Sequence 2, Application US/08930830B  
Patent No. 6514712

GENERAL INFORMATION:

APPLICANT: Peters, Heiko

APPLICANT: Balling, Rudolf

APPLICANT: Hofer, Heinz

APPLICANT: Richter, Thomas

TITLE OF INVENTION: No. 6514712el probe for early diagnosis of epithelial

TITLE OF INVENTION: dysplasias of the stratified squamous epithelium and for

TITLE OF INVENTION: tumour diagnosis and tumour therapy of squamous epithelial

TITLE OF INVENTION: carcinomas

NUMBER OF SEQUENCES: 5

CORRESPONDENCE ADDRESS:

ADDRESSEE: NIXON & VANDERHAYE P.C.

STREET: 1100 No. 6514712th Glebe Rd. 8th floor

CITY: Arlington

STATE: VA

COUNTRY: USA

ZIP: 22201-4741

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/930,830B

FILING DATE: 16-JAN-1998

PRIOR APPLICATION DATA:

APPLICATION NUMBER: PCT/EP97/00564

FILING DATE: 07-FEB-1997

PRIOR APPLICATION DATA:

APPLICATION NUMBER: GB 19605105.3

FILING DATE: 12-FEB-1996

ATTORNEY/AGENT INFORMATION:

NAME: Sadroff, B.J.

REGISTRATION NUMBER: 36,663

REFERENCE/DOCKET NUMBER: 2861-6

TELECOMMUNICATION INFORMATION:

TELEPHONE: 703-816-4000

TELEFAX: 703-816-4100

INFORMATION FOR SEQ ID NO: 2:

SEQUENCE CHARACTERISTICS:

LENGTH: 337 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-930-830B-2

Query Match 85.7%; Score 36; DB 4; Length 337;  
Best Local Similarity 85.7%; Pred. No. 1.2e+02;  
Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 POPPLPY 7  
|||:|  
DB 148 POPPLPY 154

RESULT 6  
US-08-930-830B-5

Sequence 5, Application US/08930830B

Patent No. 6514712

GENERAL INFORMATION:

APPLICANT: Peters, Heiko

APPLICANT: Balling, Rudolf

APPLICANT: Hofer, Heinz

APPLICANT: Richter, Thomas

TITLE OF INVENTION: No. 6514712el probe for early diagnosis of epithelial

TITLE OF INVENTION: dysplasias of the stratified squamous epithelium and for

TITLE OF INVENTION: tumour diagnosis and tumour therapy of squamous epithelial

TITLE OF INVENTION: carcinomas

NUMBER OF SEQUENCES: 5

CORRESPONDENCE ADDRESS:

ADDRESSEE: NIXON & VANDERHAYE P.C.

STREET: 1100 No. 6514712th Glebe Rd. 8th floor  
CITY: Arlington  
STATE: VA  
COUNTRY: USA  
ZIP: 22201-4741  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentln Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/930,830B  
FILING DATE: 16-JAN-1998  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: PCT/EP97/00564  
FILING DATE: 07-FEB-1997  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: GB 19605105.3  
FILING DATE: 12-FEB-1996  
ATTORNEY/AGENT INFORMATION:  
NAME: Sadhoff, B.J.  
REGISTRATION NUMBER: 36,663  
REFERENCE/DOCKET NUMBER: 2861-6  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 703-816-4000  
TELEFAX: 703-816-4100  
INFORMATION FOR SEQ ID NO: 5:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 342 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-930-830B-5

Query Match 85.7%; Score 35; DB 4; Length 342;  
Best Local Similarity 85.7%; Pred. No. 1.2e+02;  
Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 POPELP 7  
DB 150 POPALPY 156

RESULT 7  
US-09-270-767-61826  
Sequence 61826, Application US/09270767  
GENERAL INFORMATION:  
APPLICANT: Homburger et al.  
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster  
FILE REFERENCE: File Reference: 7326-094  
CURRENT APPLICATION NUMBER: US/09/270,767  
CURRENT FILING DATE: 1999-03-17  
NUMBER OF SEQ ID NOS: 62517  
SOFTWARE: Patentln Ver. 2.0  
SEQ ID NO 61826  
LENGTH: 67  
TYPE: PRT  
ORGANISM: Drosophila melanogaster  
US-09-270-767-61826

Query Match 83.3%; Score 35; DB 4; Length 67;  
Best Local Similarity 100.0%; Pred. No. 33;  
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 POPELP 6  
DB 13 POPELP 18

RESULT 8  
US-09-270-767-40381  
Sequence 40381, Application US/09270767

Patent No. 6703491  
GENERAL INFORMATION:  
APPLICANT: Homburger et al.  
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster  
FILE REFERENCE: File Reference: 7326-094  
CURRENT APPLICATION NUMBER: US/09/270,767  
CURRENT FILING DATE: 1999-03-17  
NUMBER OF SEQ ID NOS: 62517  
SOFTWARE: Patentln Ver. 2.0  
SEQ ID NO 40381  
LENGTH: 110  
TYPE: PRT  
ORGANISM: Drosophila melanogaster  
FEATURE:  
OTHER INFORMATION: Xaa means any amino acid  
US-09-270-767-40381

Query Match 83.3%; Score 35; DB 4; Length 110;  
Best Local Similarity 100.0%; Pred. No. 56;  
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 POPELP 6  
DB 94 POPELP 99

RESULT 9  
US-09-270-767-55597  
Sequence 55597, Application US/09270767  
Patent No. 6703491  
GENERAL INFORMATION:  
APPLICANT: Homburger et al.  
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster  
FILE REFERENCE: File Reference: 7326-094  
CURRENT APPLICATION NUMBER: US/09/270,767  
CURRENT FILING DATE: 1999-03-17  
NUMBER OF SEQ ID NOS: 62517  
SOFTWARE: Patentln Ver. 2.0  
SEQ ID NO 55597  
LENGTH: 110  
TYPE: PRT  
ORGANISM: Drosophila melanogaster  
FEATURE:  
OTHER INFORMATION: Xaa means any amino acid  
US-09-270-767-55597

Query Match 83.3%; Score 35; DB 4; Length 110;  
Best Local Similarity 100.0%; Pred. No. 56;  
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 POPELP 6  
DB 94 POPELP 99

RESULT 10  
US-09-252-991A-23935  
Sequence 23935, Application US/09252991A  
Patent No. 6531795  
GENERAL INFORMATION:  
APPLICANT: Marc J. Rubinfeld et al.  
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS  
FILE REFERENCE: 107196, 136  
CURRENT APPLICATION NUMBER: US/09/252,991A  
CURRENT FILING DATE: 1999-02-18  
PRIOR APPLICATION NUMBER: US 60/074,788  
PRIOR FILING DATE: 1998-02-18  
PRIOR APPLICATION NUMBER: US 60/094,190  
PRIOR FILING DATE: 1998-07-27  
NUMBER OF SEQ ID NOS: 33142  
SEQ ID NO 23935  
LENGTH: 170

TYPE: PRT  
ORGANISM: Pseudomonas aeruginosa  
US-09-252-991A-23935

Query Match  
Best Local Similarity 83.3%; Score 35; DB 4; Length 170;  
Best Local Similarity 100.0%; Pred. No. 87;  
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELP 6  
DB 152 POPELP 157

RESULT 11  
US-09-270-767-46258  
Sequence 46258, Application US/09270767

PATENT No. 6703491  
GENERAL INFORMATION:  
APPLICANT: Homburger et al.  
TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster  
FILE REFERENCE: File Reference: 7326-094  
CURRENT APPLICATION NUMBER: US/09/270,767  
CURRENT FILING DATE: 1999-03-17  
NUMBER OF SEQ ID NOS: 62517  
SOFTWARE: PatentIn Ver. 2.0  
SEQ ID NO 46258  
LENGTH: 386  
TYPE: PRT  
ORGANISM: Drosophila melanogaster  
US-09-270-767-46258

Query Match  
Best Local Similarity 83.3%; Score 35; DB 4; Length 386;  
Best Local Similarity 100.0%; Pred. No. 2e+02;  
Matches 6; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 POPELP 6  
DB 13 POPELP 18

RESULT 12  
US-08-611-280-25

Sequence 25, Application US/08611280  
Patent No. 5891666  
GENERAL INFORMATION:  
APPLICANT: Matsuyama, Toshifumi  
APPLICANT: Grossman, Alex  
APPLICANT: Richardson, Christopher D.  
TITLE OF INVENTION: NOVEL GENES ENCODING LSIRF POLYPEPTIDES  
NUMBER OF SEQUENCES: 25  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Amgen Canada Inc.  
STREET: 6733 Mississauga Road, Suite 303  
CITY: Mississauga  
STATE: Ontario  
COUNTRY: Canada  
ZIP: L5N 6J8

COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/611,280

FILING DATE:  
CLASSIFICATION: 435  
ATTORNEY/AGENT INFORMATION:  
NAME: Oleski, Nancy A.  
REGISTRATION NUMBER: 34,688  
REFERENCE/DOCKET NUMBER: A-338A  
INFORMATION FOR SEQ ID NO: 25:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 450 amino acids

TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-611-280-25

Query Match  
Best Local Similarity 83.3%; Score 35; DB 2; Length 450;  
Best Local Similarity 71.4%; Pred. No. 2.4e+02;  
Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 POPELPY 7  
DB 185 PHEPIPY 191

RESULT 13  
US-09-195-940-25  
Sequence 25, Application US/09195940

PATENT No. 6258935  
GENERAL INFORMATION:  
APPLICANT: Matsuyama, Toshifumi  
APPLICANT: Grossman, Alex  
APPLICANT: Richardson, Christopher D.  
TITLE OF INVENTION: NOVEL GENES ENCODING LSIRF POLYPEPTIDES  
NUMBER OF SEQUENCES: 25  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Amgen Canada Inc.  
STREET: 6733 Mississauga Road, Suite 303  
CITY: Mississauga  
STATE: Ontario  
COUNTRY: Canada  
ZIP: L5N 6J8  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/195,940  
FILING DATE:  
CLASSIFICATION:  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 08/611,280  
FILING DATE:  
ATTORNEY/AGENT INFORMATION:  
NAME: Oleski, Nancy A.  
REGISTRATION NUMBER: 34,688  
REFERENCE/DOCKET NUMBER: A-338A  
INFORMATION FOR SEQ ID NO: 25:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 450 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-09-195-940-25

Query Match  
Best Local Similarity 83.3%; Score 35; DB 3; Length 450;  
Best Local Similarity 71.4%; Pred. No. 2.4e+02;  
Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 POPELPY 7  
DB 185 PHEPIPY 191

RESULT 14

US-09-562-466-25  
Sequence 25, Application US/09562466  
Patent No. 6369202  
GENERAL INFORMATION:  
APPLICANT: Matsuyama, Toshifumi  
Grossman, Alex



Richardson, Christopher D  
TITLE OF INVENTION: NOVEL GENES ENCODING LIRF POLYPEPTIDES  
NUMBER OF SEQUENCES: 25  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Amgen Canada Inc.  
STREET: 6733 Mississauga Road, Suite 303  
CITY: Mississauga  
STATE: Ontario  
COUNTRY: Canada  
ZIP: L5N 6U8  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/562,466  
FILING DATE: 01-May-2000  
CLASSIFICATION: <Unknown>  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 09/195,940  
FILING DATE: <Unknown>  
ATTORNEY/AGENT INFORMATION:  
NAME: Oleski, Nancy A.  
REGISTRATION NUMBER: 34,688  
REFERENCE/DOCKET NUMBER: A-338A  
INFORMATION FOR SEQ ID NO: 25:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 450 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
SEQUENCE DESCRIPTION: SEQ ID NO: 25:  
US-09-562-466-25

Query Match 83.3%; Score 35; DB 3; Length 450;  
Best Local Similarity 71.4%; Pred. No. 2.4e+02;  
Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 P0PELPY 7  
DB 186 PHELPY 191

RESULT 15  
US-08-654-482-14  
Sequence 14, Application US/08654482  
Patent No. 6245562  
GENERAL INFORMATION:  
APPLICANT: Dalla-Favera, Riccardo  
TITLE OF INVENTION: IDENTIFICATION OF GENES ALTERED IN  
TITLE OF INVENTION: MULTIPLE MYELOMA  
NUMBER OF SEQUENCES: 17  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Cooper & Dunham LLP  
STREET: 1185 Avenue of the Americas  
CITY: New York  
STATE: New York  
COUNTRY: U.S.A.  
ZIP: 10036  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/654,482  
FILING DATE: 28-MAY-1996  
CLASSIFICATION: 435  
ATTORNEY/AGENT INFORMATION:  
NAME: White, John P.  
REGISTRATION NUMBER: 28,678

REFERENCE/DOCKET NUMBER: 50995  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (212) 278-0400  
TELEFAX: (212) 391-0525  
INFORMATION FOR SEQ ID NO: 14:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 451 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-654-482-14

Query Match 83.3%; Score 35; DB 3; Length 451;  
Best Local Similarity 71.4%; Pred. No. 2.4e+02;  
Matches 5; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 P0PELPY 7  
DB 186 PHELPY 192

Search completed: December 14, 2004, 17:00:56  
Job time : 16.75 secs

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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 14, 2004, 16:56:07 / Search time 58.333 Seconds  
(without alignments)  
42.861 Million cell updates/sec

Title: US-10-089-700-1  
Perfect score: 42  
Sequence: 1 PDPPLPY 7

Scoring table:

BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 1585576 seqs, 357178320 residues

Total number of hits satisfying chosen parameters: 1585576

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database: Published Applications AA:  
1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep.\*  
2: /cgn2\_6/ptodata/1/pubpaa/PC1\_NEW\_PUB.pep.\*  
3: /cgn2\_6/ptodata/1/pubpaa/US06\_NEW\_PUB.pep.\*  
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17: /cgn2\_6/ptodata/1/pubpaa/US10D\_PUBCOMB.pep.\*  
18: /cgn2\_6/ptodata/1/pubpaa/US11\_NEW\_PUB.pep.\*  
19: /cgn2\_6/ptodata/1/pubpaa/US11\_NEW\_PUB.pep.\*  
20: /cgn2\_6/ptodata/1/pubpaa/US11\_PUBCOMB.pep.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match Length	ID	Description
1	42	100.0	12	US-10-367-405-14
2	42	100.0	13	US-10-367-405-17
3	42	100.0	14	US-10-367-405-15
4	42	100.0	14	US-10-367-405-18
5	39	92.9	9	US-10-367-405-20
6	39	92.9	9	US-10-367-405-21
7	39	92.9	9	US-10-367-405-22
8	39	92.9	10	US-10-367-405-10
9	39	92.9	11	US-10-367-405-6
10	39	92.9	12	US-10-367-405-1
11	39	92.9	12	US-10-367-405-2
12	39	92.9	12	US-10-474-955-15
13	39	92.9	12	US-10-474-955-20

## ALIGNMENTS

RESULT 1  
US-10-367-405-14  
Sequence 14, Application US/10367405  
GENERAL INFORMATION:  
APPLICANT: Felix Hauech  
APPLICANT: Ian Shan  
TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE  
FILE REFERENCE: STAN-235051  
CURRENT FILING DATE: 2003-02-14  
PRIOR APPLICATION NUMBER: US/10/367,405  
PRIOR FILING DATE: 2002-02-14  
PRIOR APPLICATION NUMBER: 60/357,238  
PRIOR FILING DATE: 2002-05-14  
PRIOR APPLICATION NUMBER: 60/392,782  
PRIOR FILING DATE: 2002-06-28  
PRIOR APPLICATION NUMBER: 60/422,933  
PRIOR FILING DATE: 2002-10-31  
PRIOR APPLICATION NUMBER: 60/428,033  
PRIOR FILING DATE: 2002-11-20  
PRIOR APPLICATION NUMBER: 60/435,881  
PRIOR FILING DATE: 2002-12-20  
NUMBER OF SEQ ID NOS: 27  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 14  
LENGTH: 12  
TYPE: PRT  
ORGANISM: triticum aestivum  
US-10-367-405-14  
Query Match 100.0%; Score 42; DB 14; Length 12;  
Best Local Similarity 100.0%; Pred. No. 2.1;  
Matches 7; Conservative 0; Mismatches 0; Gaps 0;

QY 1 POPELPHY 7  
| | | | |  
DB 6 POPELPHY 12

## RESULT 2

US-10-367-405-17  
Sequence 17, Application US/10367405  
Publication No. US20030215438A1  
GENERAL INFORMATION:  
APPLICANT: Felix Hausch  
APPLICANT: Gary Gray  
APPLICANT: Lu Shan  
TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE  
FILE REFERENCE: STAN-258US1  
CURRENT APPLICATION NUMBER: US/10/367,405  
CURRENT FILING DATE: 2003-02-14  
PRIOR APPLICATION NUMBER: 60/357,238  
PRIOR FILING DATE: 2002-02-14  
PRIOR APPLICATION NUMBER: 60/380,761  
PRIOR FILING DATE: 2002-05-14  
PRIOR APPLICATION NUMBER: 60/392,782  
PRIOR FILING DATE: 2002-06-28  
PRIOR APPLICATION NUMBER: 60/422,933  
PRIOR FILING DATE: 2002-10-31  
PRIOR APPLICATION NUMBER: 60/428,033  
PRIOR FILING DATE: 2002-11-20  
PRIOR APPLICATION NUMBER: 60/435,881  
PRIOR FILING DATE: 2002-12-20  
NUMBER OF SEQ ID NOS: 27  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 17  
LENGTH: 13  
TYPE: PRT  
ORGANISM: Trilicium aestivum  
US-10-367-405-17

Query Match 100.0%; Score 42; DB 14; Length 13;  
Best Local Similarity 100.0%; Pred. No. 2.3; Indels 0; Gaps 0;  
Matches 7; Conservative 0; Mismatches 0;

QY 1 POPELPHY 7  
| | | | |  
DB 1 POPELPHY 7

## RESULT 3

US-10-367-405-15  
Sequence 15, Application US/10367405  
Publication No. US20030215438A1  
GENERAL INFORMATION:  
APPLICANT: Felix Hausch  
APPLICANT: Gary Gray  
APPLICANT: Lu Shan  
TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE  
FILE REFERENCE: STAN-258US1  
CURRENT APPLICATION NUMBER: US/10/367,405  
CURRENT FILING DATE: 2003-02-14  
PRIOR APPLICATION NUMBER: 60/357,238  
PRIOR FILING DATE: 2002-02-14  
PRIOR APPLICATION NUMBER: 60/380,761  
PRIOR FILING DATE: 2002-05-14  
PRIOR APPLICATION NUMBER: 60/392,782  
PRIOR FILING DATE: 2002-06-28  
PRIOR APPLICATION NUMBER: 60/422,933  
PRIOR FILING DATE: 2002-10-31  
PRIOR APPLICATION NUMBER: 60/428,033  
PRIOR FILING DATE: 2002-11-20  
PRIOR APPLICATION NUMBER: 60/435,881  
PRIOR FILING DATE: 2002-12-20

NUMBER OF SEQ ID NOS: 27  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 15  
LENGTH: 14  
TYPE: PRT  
ORGANISM: Trilicium aestivum  
US-10-367-405-15

QY 1 POPELPHY 7  
| | | | |  
DB 1 POPELPHY 7

Query Match 100.0%; Score 42; DB 14; Length 14;  
Best Local Similarity 100.0%; Pred. No. 2.5; Indels 0; Gaps 0;  
Matches 7; Conservative 0; Mismatches 0;

## RESULT 4

US-10-367-405-18  
Sequence 18, Application US/10367405  
Publication No. US20030215438A1  
GENERAL INFORMATION:  
APPLICANT: Felix Hausch  
APPLICANT: Gary Gray  
APPLICANT: Lu Shan  
TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE  
FILE REFERENCE: STAN-258US1  
CURRENT APPLICATION NUMBER: US/10/367,405  
CURRENT FILING DATE: 2003-02-14  
PRIOR APPLICATION NUMBER: 60/357,238  
PRIOR FILING DATE: 2002-02-14  
PRIOR APPLICATION NUMBER: 60/380,761  
PRIOR FILING DATE: 2002-05-14  
PRIOR APPLICATION NUMBER: 60/392,782  
PRIOR FILING DATE: 2002-06-28  
PRIOR APPLICATION NUMBER: 60/422,933  
PRIOR FILING DATE: 2002-10-31  
PRIOR APPLICATION NUMBER: 60/428,033  
PRIOR FILING DATE: 2002-11-20  
PRIOR APPLICATION NUMBER: 60/435,881  
PRIOR FILING DATE: 2002-12-20  
NUMBER OF SEQ ID NOS: 27  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 18  
LENGTH: 14  
TYPE: PRT  
ORGANISM: Trilicium aestivum  
US-10-367-405-18

Query Match 100.0%; Score 42; DB 14; Length 14;  
Best Local Similarity 100.0%; Pred. No. 2.5; Indels 0; Gaps 0;  
Matches 7; Conservative 0; Mismatches 0;

QY 1 POPELPHY 7  
| | | | |  
DB 1 POPELPHY 7

## RESULT 5

US-10-367-405-20  
Sequence 20, Application US/10367405  
Publication No. US20030215438A1  
GENERAL INFORMATION:  
APPLICANT: Felix Hausch  
APPLICANT: Gary Gray  
APPLICANT: Lu Shan  
TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE  
FILE REFERENCE: STAN-258US1  
CURRENT APPLICATION NUMBER: US/10/367,405  
CURRENT FILING DATE: 2003-02-14  
PRIOR APPLICATION NUMBER: 60/357,238

```

; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 20
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: T cell epitope
US-10-367-405-20
```

```
Query Match      92.9%; Score 39; DB 14; Length 9;
Best Local Similarity 85.7%; Pred. No. 1.4e+06;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
Oy 1 POPOLPY 7
    |||:||||
Db 3 POPOLPY 9
```

```

RESULT 6
US-10-367-405-21
; Sequence 21, Application US/10367405
; Publication No. US20030215438A1
; GENERAL INFORMATION:
; APPLICANT: Felix Hausch
; APPLICANT: Gary Gray
; APPLICANT: Lu Shan
; APPLICANT: Chaitan Khosla
; TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
; FILE REFERENCE: STAN-258U51
; CURRENT FILING DATE: 2003-02-14
; PRIOR FILING DATE: 2003-02-14
; PRIOR APPLICATION NUMBER: 60/357,238
; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 21
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: T cell epitope
US-10-367-405-21
```

```
Query Match      92.9%; Score 39; DB 14; Length 9;
Best Local Similarity 85.7%; Pred. No. 1.4e+06;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
Oy 1 POPOLPY 7
    |||:||||
Db 1 POPOLPY 7
```

```

RESULT 7
US-10-367-405-22
; Sequence 22, Application US/10367405
; Publication No. US20030215438A1
; GENERAL INFORMATION:
; APPLICANT: Felix Hausch
; APPLICANT: Gary Gray
; APPLICANT: Lu Shan
; APPLICANT: Chaitan Khosla
; TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
; FILE REFERENCE: STAN-258U51
; CURRENT FILING DATE: 2003-02-14
; PRIOR FILING DATE: 2003-02-14
; PRIOR APPLICATION NUMBER: 60/357,238
; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 22
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: T cell epitope
US-10-367-405-22
```

```
Query Match      92.9%; Score 39; DB 14; Length 9;
Best Local Similarity 85.7%; Pred. No. 1.4e+06;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
Oy 1 POPOLPY 7
    |||:||||
Db 3 POPOLPY 9
```

```

RESULT 8
US-10-367-405-10
; Sequence 10, Application US/10367405
; Publication No. US20030215438A1
; GENERAL INFORMATION:
; APPLICANT: Felix Hausch
; APPLICANT: Gary Gray
; APPLICANT: Lu Shan
; APPLICANT: Chaitan Khosla
; TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
; FILE REFERENCE: STAN-258U51
; CURRENT FILING DATE: 2003-02-14
; PRIOR FILING DATE: 2003-02-14
; PRIOR APPLICATION NUMBER: 60/357,238
; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
```

```

; LENGTH: 10
; TYPE: PRT
; ORGANISM: Triticum aestivum
US-10-367-405-10

Query Match          92.9%; Score 39; DB 14; Length 10;
Best Local Similarity 85.7%; Pred. No. 5.5;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

CY 1 POPOLPY 7
   |||:||||
DB 4 POPOLPY 10

RESULT 9
US-10-367-405-6
Sequence 6, Application US/10367405
Publication No. US20030215438A1
GENERAL INFORMATION:
APPLICANT: Felix Hausch
APPLICANT: Gary Gray
APPLICANT: Lu Shan
APPLICANT: Chaitan Khosla
TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
FILE REFERENCE: STAN-258US1
CURRENT APPLICATION NUMBER: US/10/367,405
CURRENT FILING DATE: 2003-02-14
PRIOR APPLICATION NUMBER: 60/357,238
PRIOR FILING DATE: 2002-02-14
PRIOR APPLICATION NUMBER: 60/380,761
PRIOR FILING DATE: 2002-05-14
PRIOR APPLICATION NUMBER: 60/392,782
PRIOR FILING DATE: 2002-06-28
PRIOR APPLICATION NUMBER: 60/422,933
PRIOR FILING DATE: 2002-10-31
PRIOR APPLICATION NUMBER: 60/428,033
PRIOR FILING DATE: 2002-11-20
PRIOR APPLICATION NUMBER: 60/435,881
PRIOR FILING DATE: 2002-12-20
NUMBER OF SEQ ID NOS: 27
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 6
LENGTH: 11
TYPE: PRT
ORGANISM: Triticum aestivum
US-10-367-405-6

Query Match          92.9%; Score 39; DB 14; Length 11;
Best Local Similarity 85.7%; Pred. No. 6;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

CY 1 POPOLPY 7
   |||:||||
DB 5 POPOLPY 11

RESULT 10
US-10-367-405-1
Sequence 1, Application US/10367405
Publication No. US20030215438A1
GENERAL INFORMATION:
APPLICANT: Felix Hausch
APPLICANT: Gary Gray
APPLICANT: Lu Shan
APPLICANT: Chaitan Khosla
TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
FILE REFERENCE: STAN-258US1
CURRENT APPLICATION NUMBER: US/10/367,405
CURRENT FILING DATE: 2003-02-14
PRIOR APPLICATION NUMBER: 60/357,238
PRIOR FILING DATE: 2002-02-14
PRIOR APPLICATION NUMBER: 60/380,761
PRIOR FILING DATE: 2002-05-14
```

```

; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 12
; TYPE: PRT
; ORGANISM: Triticum aestivum
US-10-367-405-1

Query Match          92.9%; Score 39; DB 14; Length 12;
Best Local Similarity 85.7%; Pred. No. 6.6;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

CY 1 POPOLPY 7
   |||:||||
DB 6 POPOLPY 12

RESULT 11
US-10-367-405-2
Sequence 2, Application US/10367405
Publication No. US20030215438A1
GENERAL INFORMATION:
APPLICANT: Felix Hausch
APPLICANT: Gary Gray
APPLICANT: Lu Shan
APPLICANT: Chaitan Khosla
TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
FILE REFERENCE: STAN-258US1
CURRENT APPLICATION NUMBER: US/10/367,405
CURRENT FILING DATE: 2003-02-14
PRIOR APPLICATION NUMBER: 60/357,238
PRIOR FILING DATE: 2002-02-14
PRIOR APPLICATION NUMBER: 60/380,761
PRIOR FILING DATE: 2002-05-14
PRIOR APPLICATION NUMBER: 60/392,782
PRIOR FILING DATE: 2002-06-28
PRIOR APPLICATION NUMBER: 60/422,933
PRIOR FILING DATE: 2002-10-31
PRIOR APPLICATION NUMBER: 60/428,033
PRIOR FILING DATE: 2002-11-20
PRIOR APPLICATION NUMBER: 60/435,881
PRIOR FILING DATE: 2002-12-20
NUMBER OF SEQ ID NOS: 27
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 12
TYPE: PRT
ORGANISM: Triticum aestivum
FEATURE:
NAME/KEY: PYROGLUTAMINE CAR
LOCATION: (1)...(1)
OTHER INFORMATION: N terminal pyroglutamate
US-10-367-405-2

Query Match          92.9%; Score 39; DB 14; Length 12;
Best Local Similarity 85.7%; Pred. No. 6.6;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

CY 1 POPOLPY 7
   |||:||||
DB 6 POPOLPY 12

RESULT 12
US-10-474-955-15
```

```
; Sequence 15, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:
; APPLICANT: Drifffout, Jan W.
; APPLICANT: Konig, Eric
; APPLICANT: McAdam, Stephan N.
; APPLICANT: Ludwig, Solid Magne
; TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS A
; FILE REFERENCE: 2799/71244-PCT-US
; CURRENT APPLICATION NUMBER: US/10/474,955
; CURRENT FILING DATE: 2003-10-13
; NUMBER OF SEQ ID NOS: 137
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 15
; LENGTH: 12
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Epitope Gila-ALPHA9 (57-68)
US-10-474-955-15
```

```
Query Match          92.9%; Score 39; DB 17; Length 12;
Best Local Similarity 85.7%; Pred. No. 6.6;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 POPELRY 7
    |||:||||
Db 6 POPQLRY 12
```

```
RESULT 13
US-10-474-955-20
; Sequence 20, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:
; APPLICANT: Drifffout, Jan W.
; APPLICANT: Konig, Eric
; APPLICANT: McAdam, Stephan N.
; APPLICANT: Ludwig, Solid Magne
; TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS A
; FILE REFERENCE: 2799/71244-PCT-US
; CURRENT APPLICATION NUMBER: US/10/474,955
; CURRENT FILING DATE: 2003-10-13
; NUMBER OF SEQ ID NOS: 137
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 20
; LENGTH: 12
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Epitope DQ2-ALPHA-III
US-10-474-955-20
```

```
Query Match          92.9%; Score 39; DB 17; Length 12;
Best Local Similarity 85.7%; Pred. No. 6.6;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 POPELRY 7
    |||:||||
Db 6 POPQLRY 12
```

```
RESULT 14
US-10-367-405-4
; Sequence 4, Application US/10367405
; Publication No. US20030215438A1
; GENERAL INFORMATION:
; APPLICANT: Felix Hausch
; APPLICANT: Gary Gray
; APPLICANT: Lu Shan
; APPLICANT: Chaitan Khosla
```

```
; TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
; FILE REFERENCE: STAN-258US1
; CURRENT APPLICATION NUMBER: US/10/367,405
; CURRENT FILING DATE: 2003-02-14
; PRIOR APPLICATION NUMBER: 60/357,238
; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 13
; TYPE: PRT
; ORGANISM: Triticum aestivum
US-10-367-405-4
```

```
Query Match          92.9%; Score 39; DB 14; Length 13;
Best Local Similarity 85.7%; Pred. No. 7.1;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 POPELRY 7
    |||:||||
Db 1 POPQLRY 7
```

```
RESULT 15
US-10-367-405-3
; Sequence 3, Application US/10367405
; Publication No. US20030215438A1
; GENERAL INFORMATION:
; APPLICANT: Gary Gray
; APPLICANT: Felix Hausch
; APPLICANT: Lu Shan
; APPLICANT: Chaitan Khosla
; TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
; FILE REFERENCE: STAN-258US1
; CURRENT APPLICATION NUMBER: US/10/367,405
; CURRENT FILING DATE: 2003-02-14
; PRIOR APPLICATION NUMBER: 60/357,238
; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 14
; TYPE: PRT
; ORGANISM: Triticum aestivum
US-10-367-405-3
```

```
Query Match          92.9%; Score 39; DB 14; Length 14;
Best Local Similarity 85.7%; Pred. No. 7.6;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1 POPELRY 7
    |||:||||
Db 1 POPQLRY 7
```

Wed Dec 15 10:01:54 2004

Search completed: December 14, 2004, 17:09:34  
Job time : 59.333 secs

us-10-089-700-1.rapb



GenCore version 5.1.6  
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 14, 2004, 16:56:07 / Search time 178.5 seconds  
(without alignments)  
54.798 Million cell updates/sec

Title: US-10-089-700-2  
Perfect score: 97  
Sequence: 1 QLOPFPQPLPYPOQ 17

Scoring table: BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 1825181 seqs, 575374646 residues

Total number of hits satisfying chosen parameters: 1825181

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database: 1: uniprot\_sprot:\*  
2: uniprot\_trembl:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	90	92.8	290	2	Q9M4L6
2	90	92.8	291	2	Q9M4L6
3	90	92.8	297	1	GDA4_WHEAT
4	90	92.8	307	1	GDA9_WHEAT
5	86	88.7	273	2	Q9M4M4
6	82	84.5	259	2	Q4L533
7	82	84.5	269	2	Q9M4L7
8	82	84.5	270	2	Q9M4L9
9	82	84.5	274	1	Q9M4M5
10	82	84.5	286	1	GDA0_WHEAT
11	82	84.5	286	2	AAA96525
12	82	84.5	287	2	Q4L528
13	82	84.5	288	2	Q9ZP09
14	82	84.5	289	2	Q4L531
15	82	84.5	318	2	Q4L545
16	81.5	84.0	313	1	GDA7_WHEAT
17	81.5	84.0	313	2	Q4L529
18	81.5	84.0	313	2	Q4L546
19	81.5	84.0	319	1	GDA5_WHEAT
20	80	82.5	277	2	Q9M4L8
21	74	76.3	276	2	Q9M4M0
22	74	76.3	276	2	Q9M4M2
23	74	76.3	278	2	Q9M4M1
24	74	76.3	288	2	Q4L530
25	72.5	74.7	296	1	GDA6_WHEAT
26	72.5	74.7	296	2	Q4L532
27	72	74.2	262	1	GDA1_WHEAT
28	72	74.2	287	2	Q4L509
29	66.5	68.6	347	2	Q4O055
30	65	67.0	280	2	Q9FUM7
31	65	67.0	392	2	Q6DLCT

32	63.5	65.5	265	2	Q9M4M3	Q9M4M3	triticum	ae
33	63.5	65.5	265	2	Q9M4M6	Q9M4M6	triticum	ae
34	63.5	65.5	282	1	GDA3_WHEAT	P04723	triticum	ae
35	63	64.9	192	2	Q9F858	Q9F858	triticum	ur
36	63	64.9	192	2	Q9F859	Q9F859	triticum	ur
37	63	64.9	192	2	Q9F859	Q4L320	secale	cere
38	63	64.9	203	2	Q94G95	Q94G95	triticum	ae
39	63	64.9	213	2	Q94G90	Q94G90	triticum	ae
40	63	64.9	239	2	Q6E8W5	Q6E8W5	triticum	tu
41	63	64.9	274	2	Q6E8X0	Q6E8X0	triticum	ae
42	63	64.9	277	2	Q9M4L5	Q9M4L5	triticum	ae
43	63	64.9	279	2	Q4L543	Q4L543	triticum	ae
44	63	64.9	280	2	Q4L602	Q4L602	triticum	tu
45	63	64.9	282	2	Q84M19	Q84M19	triticum	tu

## ALIGNMENTS

RESULT 1  
Q9M4L6 PRELIMINARY; PRT; 290 AA.  
ID Q9M4L6  
AC Q9M4L6;  
DT 01-OCT-2000 (TrEMBLrel. 15, Created)  
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)  
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
DE Alpha-gliadin.  
OS Triticum aestivum (Wheat).  
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Poideae;  
OC Triticaceae; Triticum.  
CX NCBI\_TaxID=4565;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=Mjoelner; TISSUE=Endosperm;  
RA Arend-Hansen E.H., Mørdam S.N., Mølberg O., Kristiansen C.,  
RL Solid L.M.;  
RT Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AJ133612; CAB76964.1; ...  
DR GO; GO:0045735; Functional reservoir activity; IEA.  
DR InterPro; IPR003612; AAI.  
DR InterPro; IPR001376; Gliadin.  
DR InterPro; IPR001954; Gliadin.  
DR Pfam; PF00234; Tryp\_alpha\_amyl; 1.  
DR PRINTS; PR00208; GIADGLUTEN.  
DR PRINTS; PR00209; GIADLIN.  
DR SMART; SM00499; AAI; 1.  
FT CHAIN  
FT 1 290 alpha-gliadin.  
SQ SEQUENCE 290 AA; 33735 MW; C47370FA69FE0BE4 CRC64;

Query Match 92.8%; Score 90; DB 2; Length 290;  
Best Local Similarity 93.8%; Pred. No. 0.00061;  
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPFPQPLPYPOQ 16  
Db 58 QLOPFPQPLPYPOQ 73  
RESULT 2  
ID GDA2\_WHEAT STANDARD; PRT; 291 AA.  
AC P04722;  
DT 13-AUG-1987 (Rel. 05, Created)  
DT 13-AUG-1987 (Rel. 05, Last sequence update)  
DT 29-MAR-2004 (Rel. 43, Last annotation update)  
DE Alpha/beta-gliadin A-II precursor (Prolamin).  
OS Triticum aestivum (Wheat).  
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Poideae;  
CX NCBI\_TaxID=4565;  
RN [1]

RP SEQUENCE FROM N.A.  
 RX MEDLINE=85234522; PubMed=2989281;  
 RA Ohta T.W., Cheesbrough V., Reeves C.D.;  
 RT "Evolution and heterogeneity of the alpha-/beta-type and gamma-type  
 gliadin DNA sequences";  
 RL J. Biol. Chem. 260:8203-8213(1985).  
 CC -1- FUNCTION: Gliadin is the major seed storage protein in wheat.  
 CC -1- PTM: Substrate of transglutaminase (By similarity).  
 CC -1- ALLERGEN: Causes an allergic reaction in human. Is the cause of  
 the celiac disease, also known as celiac sprue or gluten-sensitive  
 enteropathy (By similarity).  
 CC -1- MISCELLANEOUS: The alpha/beta-gliadins can be divided into 5  
 homology classes. Sequence divergence between the classes is due  
 to single base substitutions and to duplications or deletions  
 within or near direct repeats. There are more than a 100 copies of  
 the gene for alpha/beta-gliadin per haploid genome.  
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 or send an email to [license@isb-sib.ch](mailto:license@isb-sib.ch)).  
 CC  
 DR SBL, M10092; AAA34276.1; -.  
 DR PIR, C22364; C22364.  
 DR PIR, T06498; T06498.  
 DR InterPro: IPR003612; AAI.  
 DR InterPro: IPR001376; Gliadin.  
 DR InterPro: IPR001954; GliA glutenin.  
 DR Pfam: PF00234; Tryp\_alpha\_amy1; 1.  
 DR PRINTS: PR00208; GLIADSLUTEN.  
 DR PRINTS: PR00209; GLIADIN.  
 DR SMART: SM00499; AAI; 1.  
 KW Allergen; Multigene family; Repeat; Seed storage protein; Signal.  
 FT SIGNAL  
 FT CHAIN 1 291 Alpha/beta-gliadin A-II.  
 SQ SEQUENCE 291 AA; 33661 MW; 9B39P93B0825A280 CRC64;  
 Query Match 92.8%; Score 90; DB 1; Length 291;  
 Best Local Similarity 93.8%; Pred. No. 0.00061;  
 Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 QLOPPEPELPYPOQ 16  
 DB 77 QLOPPEPELPYPOQ 92  
 RESULT 3  
 GDA4 WHEAT STANDARD; PRT; 297 AA.  
 ID GDA4 WHEAT STANDARD; PRT; 297 AA.  
 AC P04724.  
 DT 13-AUG-1987 (Rel. 05, Created)  
 DT 13-AUG-1987 (Rel. 05, Last sequence update)  
 DT 29-MAR-2004 (Rel. 43, Last annotation update)  
 DE Alpha/beta-gliadin A-IV precursor (Prolamin).  
 OS Triticum aestivum (wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticaceae; Triticum.  
 OX NCBI\_TaxID=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=85234522; PubMed=2989281;  
 RA Ohta T.W., Cheesbrough V., Reeves C.D.;  
 RT "Evolution and heterogeneity of the alpha-/beta-type and gamma-type  
 gliadin DNA sequences";  
 RL J. Biol. Chem. 260:8203-8213(1985).  
 CC -1- FUNCTION: Gliadin is the major seed storage protein in wheat.  
 CC -1- PTM: Substrate of transglutaminase (By similarity).  
 CC -1- ALLERGEN: Causes an allergic reaction in human. Is the cause of  
 the celiac disease, also known as celiac sprue or gluten-sensitive

enteropathy (By similarity).  
 CC -1- MISCELLANEOUS: The alpha/beta-gliadins can be divided into 5  
 homology classes. Sequence divergence between the classes is due  
 to single base substitutions and to duplications or deletions  
 within or near direct repeats. There are more than a 100 copies of  
 the gene for alpha/beta-gliadin per haploid genome.  
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 CC  
 DR SBL, M1075; AAA34282.1; -.  
 DR PIR, D22364; D22364.  
 DR PIR, T06500; T06500.  
 DR InterPro: IPR003612; AAI.  
 DR InterPro: IPR001376; Gliadin.  
 DR InterPro: IPR001954; GliA glutenin.  
 DR Pfam: PF00234; Tryp\_alpha\_amy1; 1.  
 DR PRINTS: PR00208; GLIADSLUTEN.  
 DR PRINTS: PR00209; GLIADIN.  
 DR SMART: SM00499; AAI; 1.  
 KW Allergen; Multigene family; Repeat; Seed storage protein; Signal.  
 FT SIGNAL  
 FT CHAIN 1 297 Alpha/beta-gliadin A-IV.  
 SQ SEQUENCE 297 AA; 34239 MW; 0025ED289AB5588B CRC64;  
 Query Match 92.8%; Score 90; DB 1; Length 297;  
 Best Local Similarity 93.8%; Pred. No. 0.00063;  
 Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 QLOPPEPELPYPOQ 16  
 DB 77 QLOPPEPELPYPOQ 92  
 RESULT 4  
 GDA9 WHEAT STANDARD; PRT; 307 AA.  
 ID GDA9 WHEAT STANDARD; PRT; 307 AA.  
 AC P18573.  
 DT 01-NOV-1990 (Rel. 16, Created)  
 DT 01-NOV-1990 (Rel. 16, Last sequence update)  
 DT 29-MAR-2004 (Rel. 43, Last annotation update)  
 DE Alpha/beta-gliadin MM1 precursor (Prolamin).  
 OS Triticum aestivum (wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticaceae; Triticum.  
 OX NCBI\_TaxID=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=cv. Chinese Spring; TISSUE=Endosperm;  
 RX MEDLINE=9134679; PubMed=2102865;  
 RA Garcia-Maroto F., Manana C., Garcia-Olmedo F., Carbonero P.,  
 RT "Nucleotide sequence of a cDNA encoding an alpha/beta-type gliadin  
 from hexaploid wheat (Triticum aestivum).";  
 RL Plant Mol. Biol. 14:867-868(1990).  
 CC [2]  
 RP ALLERGENICITY.  
 RX PubMed=12351792; DOI=10.1126/science.1074129;  
 RA Shan L., Molberg O., Parrot I., Hausch F., Filiz F., Gray G.M.,  
 RT "Structural basis for gluten intolerance in celiac sprue."  
 RL Science 297:2275-2279(2002).  
 CC -1- FUNCTION: Gliadin is the major seed storage protein in wheat.  
 CC -1- PTM: Substrate of transglutaminase.  
 CC -1- ALLERGEN: Causes an allergic reaction in human. Is the cause of  
 the celiac disease, also known as celiac sprue or gluten-sensitive  
 enteropathy.  
 CC -1- MISCELLANEOUS: An internal 33-mer peptide seems to be the primary

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CC CC      initiator of the inflammatory response to gluten.
CC CC      -1- MISCELLANEOUS: The alpha/beta-gliadins can be divided into 5
CC CC      homology classes. Sequence divergence between the classes is due
CC CC      to single base substitutions and to duplications or deletions
CC CC      within or near direct repeats. There are more than a 100 copies of
CC CC      the gene for alpha/beta-gliadin per haploid genome.
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CC CC      or send an email to license@isb-sib.ch).
CC CC      -----
CC CC      EMBL, X17361, CAA35238.1; -.
CC CC      PIR, S10015, S10015.
CC CC      InterPro: IPR003612; AAI.
CC CC      InterPro: IPR001376; Gliadin.
CC CC      InterPro: IPR001954; GliA_gluTenin.
CC CC      Pfam: PF00234; Tryp_alpha_amy1; 1.
CC CC      PRINTS: PR00208; GLIADGUTEN.
CC CC      PRINTS: PR00209; GLIADIN.
CC CC      SMART; SM00499; AAI; 1.
CC CC      KMER; Multigene family; Repeat; Seed storage protein; Signal.
CC CC      SIGNAL
CC CC      CHAIN
CC CC      FT SIGNAL
CC CC      FT CHAIN
CC CC      SEQUENCE 307 AA; 35397 MW; 06C1858BD96F1E08 CRC64;

Query Match      92.8%; Score 90; DB 1; Length 307;
Best Local Similarity 93.8%; Pred. No. 0.00065;
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPPPOPELPYPOQ 16
DB 77 QLOPPPOPELPYPOQ 92

RESULT 5
Q9M4M4 PRELIMINARY; PRT; 273 AA.
AC Q9M4M4:
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-MAR-2004 (TREMBLrel. 26, Last annotation update)
DE Alpha-gliadin.
OS Triticum aestivum (Wheat).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;
OC Triticeae; Triticum.
OX NCBI_TaxID=4565;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Mjocelner; TISSUE=Endosperm;
RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,
RA Sollid L.W.,
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AJ133604; CAB76956.1; -.
DR GO; GO:0045735; F:nutrient reservoir activity; IEA.
DR InterPro: IPR003612; AAI.
DR InterPro: IPR001376; GliA_gluTenin.
DR InterPro: IPR001954; GliA_gluTenin.
DR PRINTS; PR00208; GLIADGUTEN.
DR PRINTS; PR00209; GLIADIN.
DR SMART; SM00499; AAI; 1.
DR CHAIN
DR FT CHAIN
DR FT CHAIN
DR SEQUENCE 273 AA; 31953 MW; 1518E4FF727BDBF1 CRC64;

Query Match      88.7%; Score 86; DB 2; Length 273;
Best Local Similarity 87.5%; Pred. No. 0.0019;
Matches 14; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

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QY 1 QLOPPPOPELPYPOQ 16
DB 58 QLOPPPOPELPYPOQ 73

RESULT 6
Q41533 PRELIMINARY; PRT; 259 AA.
AC Q41533:
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-MAR-2004 (TREMBLrel. 26, Last annotation update)
DE Alpha-gliadin (Fragment).
OS Triticum aestivum (Wheat).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;
OC Triticeae; Triticum.
OX NCBI_TaxID=4565;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE=98409296; PubMed=9738916;
RA Maruyama N., Ichise K., Katsube T., Kishimoto T., Kawase S.,
RA Matsumura Y., Takeuchi Y., Sawada T., Utsuni S.;
RT "Identification of major wheat allergens by means of the Escherichia
RT coli expression system.";
RL Eur. J. Biochem. 255:739-745(1998).
DR EMBL; D84341; BAA12318.1; -.
DR GO; GO:0045735; F:nutrient reservoir activity; IEA.
DR InterPro: IPR003612; AAI.
DR InterPro: IPR001376; Gliadin.
DR InterPro: IPR001954; GliA_gluTenin.
DR Pfam; PF00234; Tryp_alpha_amy1; 1.
DR PRINTS; PR00208; GLIADGUTEN.
DR PRINTS; PR00209; GLIADIN.
DR SMART; SM00499; AAI; 1.
DR NON TER
DR FT NON TER
DR FT CHAIN
DR FT CHAIN
DR SEQUENCE 259 AA; 29996 MW; FE36CD48FD8F54C6 CRC64;

Query Match      84.5%; Score 82; DB 2; Length 259;
Best Local Similarity 87.5%; Pred. No. 0.006;
Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QLOPPPOPELPYPOQ 16
DB 57 QLOPPPOPELPYPOQ 72

RESULT 7
Q9M4L7 PRELIMINARY; PRT; 269 AA.
AC Q9M4L7:
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-MAR-2004 (TREMBLrel. 26, Last annotation update)
DE Alpha-gliadin.
OS Triticum aestivum (Wheat).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;
OC Triticeae; Triticum.
OX NCBI_TaxID=4565;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Mjocelner; TISSUE=Endosperm;
RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,
RA Sollid L.W.,
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
DR EMBL; AJ133611; CAB76963.1; -.
DR GO; GO:0045735; F:nutrient reservoir activity; IEA.
DR InterPro: IPR003612; AAI.
DR InterPro: IPR001376; GliA_gluTenin.
DR InterPro: IPR001954; GliA_gluTenin.
DR Pfam; PF00234; Tryp_alpha_amy1; 1.

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DR PRINTS; PR00208; GIADGLUTEN.  
 DR SMART; PR00209; GIADIN.  
 DR SMART; SM00499; AAI; 1.  
 FT CHAIN 1 269 alpha-gliadin.  
 SQ SEQUENCE 269 AA; 31292 MW; 87127D6FD15EC78B CRC64;

Query Match 84.5%; Score 82; DB 2; Length 269;  
 Best Local Similarity 87.5%; Pred. No. 0.0062;  
 Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

OY 1 QLOPFPQPELPYPOQ 16  
 DB 58 QLOPFPQPELPYPOQ 73

## RESULT 8

Q9M419 PRELIMINARY; PRT; 270 AA.

AG Q9M419  
 DT 01-OCT-2000 (TREMUREL. 15, Created)  
 DT 01-OCT-2000 (TREMUREL. 15, Last sequence update)  
 DT 01-MAR-2004 (TREMUREL. 26, Last annotation update)  
 DE Alpha-gliadin.  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticeae; Triticum.  
 NC NCB1\_TaxID=4565;

RA STRAIN=Mjoelner; TISSUE=Endosperm;  
 RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,  
 RA Solid L.M.;  
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; AJ133603; CAB76951.1; F:nutrient reservoir activity; IEA.  
 DR GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DR InterPro; IPR003612; AAI.  
 DR InterPro; IPR001376; Gliadin.  
 DR InterPro; IPR001954; Glla-glutenin.  
 DR Pfam; PF00234; Tryp\_alpha\_amy1; 1.  
 DR PRINTS; PR00208; GIADGLUTEN.  
 DR PRINTS; PR00209; GIADIN.  
 DR SMART; SM00499; AAI; 1.  
 DR CHAIN 1 270 alpha-gliadin.  
 SQ SEQUENCE 270 AA; 31491 MW; 1DB4B6528EFDFF5 CRC64;

Query Match 84.5%; Score 82; DB 2; Length 270;  
 Best Local Similarity 87.5%; Pred. No. 0.0062;  
 Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

OY 1 QLOPFPQPELPYPOQ 16  
 DB 58 QLOPFPQPELPYPOQ 73

## RESULT 9

Q9M419 PRELIMINARY; PRT; 274 AA.

AG Q9M419  
 DT 01-OCT-2000 (TREMUREL. 15, Created)  
 DT 01-OCT-2000 (TREMUREL. 15, Last sequence update)  
 DT 01-MAR-2004 (TREMUREL. 26, Last annotation update)  
 DE Alpha-gliadin.  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticeae; Triticum.  
 NC NCB1\_TaxID=4565;

RA STRAIN=Mjoelner; TISSUE=Endosperm;  
 RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,  
 RA Solid L.M.;

RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; AJ133603; CAB76955.1; F:nutrient reservoir activity; IEA.  
 DR GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DR InterPro; IPR003612; AAI.  
 DR InterPro; IPR001376; Gliadin.  
 DR InterPro; IPR001954; Glla-glutenin.  
 DR Pfam; PF00234; Tryp\_alpha\_amy1; 1.  
 DR PRINTS; PR00208; GIADGLUTEN.  
 DR PRINTS; PR00209; GIADIN.  
 DR SMART; SM00499; AAI; 1.  
 DR CHAIN 1 274 alpha-gliadin.  
 SQ SEQUENCE 274 AA; 31980 MW; 97691937534AEBD CRC64;

Query Match 84.5%; Score 82; DB 2; Length 274;  
 Best Local Similarity 87.5%; Pred. No. 0.0063;  
 Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

OY 1 QLOPFPQPELPYPOQ 16  
 DB 58 QLOPFPQPELPYPOQ 73

## RESULT 10

GD40 WHEAT STANDARD; PRT; 286 AA.

AC P02863;  
 DT 21-JUL-1986 (Rel. 01, Created)  
 DT 21-JUL-1986 (Rel. 01, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Alpha/beta-gliadin precursor (Prolamin).  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticeae; Triticum.  
 NC NCB1\_TaxID=4565;

RA STRAIN=cv. Newton;  
 RA MEDLINE=84261434; PubMed=6204862;  
 RA Rafalski J.A., Scheets K., Metzler M., Peterson D.M., Hedgcock C.,  
 RA Soli D.G.;  
 RL "Developmentally regulated plant genes: the nucleotide sequence of a wheat gliadin genomic clone.";  
 RL EMBO J. 3:1409-1415(1984).  
 RN [2] SEQUENCE FROM N.A. (CLONE PM8233).  
 RP MEDLINE=85242077; PubMed=3839304;  
 RA Summer-Smith M., Rafalski J.A., Sugiyama T., Stoll M., Soell D.;  
 RL "Conservation and variability of wheat alpha/beta-gliadin genes.";  
 RL Nucleic Acids Res. 13:3905-3916(1985).  
 RN [3] SEQUENCE FROM N.A.  
 RP MEDLINE=85062803; PubMed=6095191;  
 RA Anderson O.D., Litts J.C., Gautier M.F., Greene F.C.;  
 RL "Nucleic acid sequence and chromosome assignment of a wheat storage protein gene.";  
 RL Nucleic Acids Res. 12:8129-8144(1984).  
 CC - FUNCTION: Gliadin is the major seed storage protein in wheat.  
 CC - PTM: Substrate of transglutaminase (By similarity).  
 CC - ALLERGEN: Causes an allergic reaction in human. Is the cause of the celiac disease, also known as celiac sprue or gluten-sensitive enteropathy (By similarity).  
 CC - MISCELLANEOUS: The alpha/beta-gliadins can be divided into 5 homology classes. Sequence divergence between the classes is due to single base substitutions and to duplications or deletions within or near direct repeats. There are more than a 100 copies of the gene for alpha/beta-gliadin per haploid genome.

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CC -----  
 DR EMBL; X00627; CAA25261.1; -  
 DR EMBL; X03076; AAA34280.1; -  
 DR EMBL; X02539; CAA26384.1; -  
 DR EMBL; X01130; CAA25593.1; -  
 DR PIR; A03354; EEMTA  
 DR InterPro; IPR003612; AAI  
 DR InterPro; IPR001376; Gliadin.  
 DR InterPro; IPR001954; Gli\_a\_glutenin.  
 DR Pfam; PF00234; Tryp\_alpha\_amy1; 1.  
 DR PRINTS; PR00208; GLIADGLUTEN.  
 DR PRINTS; PR00209; GLIADIN.  
 DR SMART; SM00499; AAI; 1.  
 DR Allergen; Multigene family; Repeat; Seed storage protein; Signal.  
 KM SIGNAL  
 FT CHAIN 1 20  
 FT VARIANT 21 286 Alpha/beta-gliadin.  
 FT VARIANT 37 37 L -> Q (in clone PM8233 and in Ref. 3).  
 FT VARIANT 93 93 P -> Q (in clone PM8233).  
 FT VARIANT 193 194 HN -> LK (in Ref. 3).  
 SQ SEQUENCE 286 AA; 32949 MW; E5ECFABBE29E10C6 CRC64;

Query Match 84.5%; Score 82; DB 1; Length 286;  
 Best Local Similarity 87.5%; Pred. No. 0.0067;  
 Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPOQ 16  
 DB 77 QLOPFPQPELPYPOQ 92

## RESULT 11

AAA96525 PRELIMINARY; PRT; 286 AA.

AC AAA96525; (Created)  
 DT 02-MAR-2004 (TEMBLrel. 27, Last sequence update)  
 DT 02-MAR-2004 (TEMBLrel. 27, Last sequence update)  
 DE Alpha-gliadin storage protein.  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;  
 OC Magnoliophyta; Liliopsida; Poales; Poaceae; Triticum.  
 OX NCBI\_TaxID=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Cheyenne;  
 RA Anderson O.D.;  
 RL Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; U51307; AAA96525.1; -  
 SQ SEQUENCE 286 AA; 32949 MW; E5ECFABBE29E10C6 CRC64;

Query Match 84.5%; Score 82; DB 2; Length 286;  
 Best Local Similarity 87.5%; Pred. No. 0.0067;  
 Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPOQ 16  
 DB 77 QLOPFPQPELPYPOQ 92

## RESULT 12

Q41528 PRELIMINARY; PRT; 287 AA.

AC Q41528; (Created)  
 DT 01-NOV-1996 (TEMBLrel. 01, Last sequence update)  
 DT 01-NOV-1996 (TEMBLrel. 01, Last sequence update)  
 DT 01-MAR-2004 (TEMBLrel. 26, Last annotation update)  
 DE Alpha-gliadin  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticaceae; Triticum.

OX NCBI\_TaxID=4565;

RN [1]  
 RC SEQUENCE FROM N.A.  
 RC STRAIN=Cheyenne;  
 RA Anderson O.D.;  
 RL Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; U50984; AAA96276.1; -  
 DR GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DR InterPro; IPR003612; AAI  
 DR InterPro; IPR001376; Gliadin.  
 DR InterPro; IPR001954; Gli\_a\_glutenin.  
 DR Pfam; PF00234; Tryp\_alpha\_amy1; 1.  
 DR PRINTS; PR00208; GLIADGLUTEN.  
 DR PRINTS; PR00209; GLIADIN.  
 DR SMART; SM00499; AAI; 1.  
 SQ SEQUENCE 287 AA; 31193 MW; 05F82296749C9E97 CRC64;

Query Match 84.5%; Score 82; DB 2; Length 287;  
 Best Local Similarity 87.5%; Pred. No. 0.0067;  
 Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPOQ 16  
 DB 76 QLOPFPQPELPYPOQ 91

## RESULT 13

Q9ZP09 PRELIMINARY; PRT; 288 AA.

AC Q9ZP09; (Created)  
 DT 01-MAY-1999 (TEMBLrel. 10, Last sequence update)  
 DT 01-MAY-1999 (TEMBLrel. 10, Last sequence update)  
 DT 01-MAR-2004 (TEMBLrel. 26, Last annotation update)  
 DE Alpha-gliadin precursor (Fragment).  
 GN Name=alpha-gliadin;  
 OS Triticum aestivum subsp. spelta.  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticaceae; Triticum.  
 OX NCBI\_TaxID=58933;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RA Kasarda D.D.; D'Ovidio R.;  
 RT "Deduced amino acid sequence of an alpha-gliadin gene from Spelt wheat (Spelta) includes sequences active in celiac disease.";  
 RL Cereal Chem. 76:548-551 (1999).  
 DR EMBL; AJ130948; CAA10257.1; -  
 DR PIR; S13333; S13333.  
 DR GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DR InterPro; IPR003612; AAI  
 DR InterPro; IPR001376; Gliadin.  
 DR InterPro; IPR001954; Gli\_a\_glutenin.  
 DR Pfam; PF00234; Tryp\_alpha\_amy1; 1.  
 DR PRINTS; PR00208; GLIADGLUTEN.  
 DR PRINTS; PR00209; GLIADIN.  
 DR SMART; SM00499; AAI; 1.

KM SIGNAL 1 20 Potential.  
 FT SIGNAL 21 >288 alpha-gliadin.  
 FT CHAIN 288 288  
 FT NON TER 288  
 SQ SEQUENCE 288 AA; 33203 MW; DA058F3FAFA6BC6C CRC64;

Query Match 84.5%; Score 82; DB 2; Length 288;  
 Best Local Similarity 87.5%; Pred. No. 0.0067;  
 Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPOQ 16  
 DB 77 QLOPFPQPELPYPOQ 92

## RESULT 14

Q41531

ID	Q41531	PRELIMINARY;	PRT;	289 AA.
AC	Q41531.1996	(TREMBlrel. 01, Created)		
BT	01-NOV-1996	(TREMBlrel. 01, Last sequence update)		
DT	01-NOV-1996	(TREMBlrel. 01, Last sequence update)		
DR	01-MAR-2004	(TREMBlrel. 26, Last annotation update)		
DS	Alpha-gliadin storage protein.			
OS	Triticum aestivum (Wheat).			
OC	Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae; Triticaceae; Triticum.			
OX	NCBI_TaxID=4565;			
RA	SEQUENCE FROM N.A.			
RC	STRAIN=Cheyenne;			
RD	Anderson O.D.;			
RE	Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.			
RF	EMBL, U51306; AAA96524.1; -.			
RG	PIR, S1333; S1333.			
RH	GO:0045735; P:nutrient reservoir activity; IEA.			
RI	InterPro: IPR001362; AAI.			
RJ	InterPro: IPR001376; Gliadin.			
RK	InterPro: IPR001954; Gliatutenin.			
RL	Pfam: PF00234; T1YP alpha_amy1; 1.			
RM	PRINTS; PR00208; GLIADGUTEN.			
RN	PRINTS; PR00209; GLIADIN.			
RO	SMART; SM00499; AAI; 1.			
RP	SEQUENCE 289 AA; 33349 MW; 5F577C9C063874FA CRC64;			
RS	Query Match	84.5%;	Score 82;	DB 2; Length 289;
RT	Best Local Similarity	87.5%;	Pred. No. 0.0657;	
RU	Matches 14; Conservative	1;	Mismatches 1;	Indels 0; Gaps 0;
RV	1 QLOPPQPELPYPQ 16			
SW	: : :			
DB	77 QLOPPQPELPYPQ 92			
RESULT 15				
Q41545				
ID	Q41545	PRELIMINARY;	PRT;	318 AA.
AC	Q41545;			
BT	01-NOV-1996	(TREMBlrel. 01, Created)		
DT	01-NOV-1996	(TREMBlrel. 01, Last sequence update)		
DR	01-MAR-2004	(TREMBlrel. 26, Last annotation update)		
DS	(T. aestivum) alpha-type gliadin precursor.			
OS	Triticum aestivum (Wheat).			
OC	Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae; Triticaceae; Triticum.			
OX	NCBI_TaxID=4565;			
RA	SEQUENCE FROM N.A.			
RC	MEDLINE=84272703; PubMed=6589619;			
RD	Kasarda D.D., Okita T.W., Bernardin J.E., Baecker P.A., Nimmo C.C.,			
RE	Lew E.V.-L., Dietter M.D., Greene F.C., and amino acid sequences of alpha-type gliadins			
RF	from wheat (Triticum aestivum).";			
RG	Proc. Natl. Acad. Sci. U.S.A. 81:4712-4716(1984).			
RH	EMBL, R02068; AAA34275.1; -.			
RI	PIR: S1333; S1333.			
RJ	GO:0045735; P:nutrient reservoir activity; IEA.			
RK	InterPro: IPR003612; AAI.			
RL	InterPro: IPR001376; Gliadin.			
RM	InterPro: IPR001954; Gliatutenin.			
RN	Pfam: PF00234; T1YP alpha_amy1; 1.			
RO	PRINTS; PR00208; GLIADGUTEN.			
RI	PRINTS; PR00209; GLIADIN.			
RJ	SMART; SM00499; AAI; 1.			
RK	Signal.			
RL	SIGNAL.			
RM	1	20	Potential.	
RN	CHAIN	21	318	Potential.
RO	SEQUENCE	318 AA; 36538 MW; 758598BC45DEC32D CRC64;		

Query Match	84.5%	Score 82	DB 2	Length 318
Best Local Similarity	76.2%	Pred. No. 0.0075		
Matches	16	Conservative	1	Mismatches 0; Indels 4; Gaps 1
Qy	1	QKQEPQPE-----LPYQPOS	17	
Db	77	QKQEPQPEPQPEPPLPYQPOS	97	

Search completed: December 14, 2004, 17:06:09  
Job time : 179.5 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 14, 2004, 16:56:07 ; Search time 33.2917 Seconds  
(without alignments)  
49.132 Million cell updates/sec

Title: US-10-089-700-2

Perfect score: 97  
Sequence: 1 QLOPFPQPELPYPQPOS 17

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : PIR\_79:\*

1: pir1:\*

2: pir2:\*

3: pir3:\*

4: pir4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	90	92.8	291	2	T06498
2	90	92.8	297	2	T06500
3	90	92.8	307	2	S10015
4	82	84.5	286	1	HEWTA
5	82	84.5	286	2	S07923
6	81.5	84.0	313	2	S07924
7	81.5	84.0	319	2	A22364
8	77.5	79.9	319	2	C22364
9	77.5	79.9	326	2	D22364
10	74	76.3	288	2	T06282
11	72.5	74.7	296	2	A27319
12	72.5	74.7	296	2	S07361
13	66.5	66.6	347	2	T05737
14	63.5	65.5	282	2	T06504
15	63.5	65.5	320	2	E22364
16	63.5	65.5	320	2	E22364
17	63	64.9	302	2	JA0153
18	62.5	64.4	292	2	B22364
19	62.5	64.4	357	2	S18235
20	62.5	64.4	357	2	S18235
21	61	62.9	162	2	T07173
22	60.5	62.4	72	2	A25677
23	60.5	62.4	260	2	S18350
24	60.5	62.4	310	2	T06211
25	60.5	62.4	400	2	S58222
26	59.5	61.3	228	2	JT0564
27	59.5	61.3	291	1	HEWTA
28	59.5	61.3	327	1	US0402
29	58.5	60.3	105	2	S07189

30	56.5	58.2	302	2	H96792
31	56.2	56.2	138	2	B27863
32	54.5	56.2	427	2	T03955
33	54.5	56.2	807	2	T02916
34	54.5	56.2	839	1	TQ2MCA
35	54.5	56.2	251	2	PS0094
36	54	55.7	305	2	S08312
37	53.5	55.2	290	2	S20519
38	53.5	55.2	633	1	S49611
39	53.5	55.2	1494	2	T14355
40	53	54.6	286	2	T05718
41	52.5	54.1	271	2	T04474
42	52.5	54.1	284	2	A35419
43	52.5	54.1	293	2	S07365
44	52.5	54.1	3164	1	WMBEH6
45	52	53.6	728	2	S43768

#### ALIGNMENTS

##### RESULT 1

T06498  
alpha/beta-gliadin A-II precursor - wheat  
C/Species: Triticum aestivum (common wheat)  
C/Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #ext\_change 09-Jul-2004  
C/Accession: T06498  
R/Okita, T.W.; Cheebrough, V.; Reeves, C.D.  
J. Biol. Chem. 260, 8203-8213, 1985  
A/Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA  
A/Reference number: A92541; M01D:85234522; PMID:2589281  
A/Accession: T06498  
A/Status: translated from GB/EMBL/DBJ  
A/Molecule type: mRNA  
A/Residues: 1-291 <OKI>  
A/Cross-references: UNIPROT: P04722; EMBL: M10092; NID: G170711; PID: AAA34282.1; PID: G170  
C/Superfamily: gliadin  
C/Keywords: seed; storage protein  
F/1-20/Domain: signal sequence #status predicted <Sig>  
F/21-291/Product: alpha/beta-gliadin A-II #status predicted <MAT>

Query Match 92.8%; Score 90; DB 2; Length 291;  
Best Local Similarity 93.8%; Pred. No. 6.7e-05;

Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPQPO 16

Db 77 QLOPFPQPELPYPQPO 92

##### RESULT 2

T06500  
alpha/beta-gliadin A-IV precursor - wheat  
C/Species: Triticum aestivum (common wheat)  
C/Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #ext\_change 09-Jul-2004  
C/Accession: T06500  
R/Okita, T.W.; Cheebrough, V.; Reeves, C.D.  
J. Biol. Chem. 260, 8203-8213, 1985  
A/Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA  
A/Reference number: A92541; M01D:85234522; PMID:2589281  
A/Accession: T06500  
A/Status: translated from GB/EMBL/DBJ  
A/Molecule type: mRNA  
A/Residues: 1-297 <OKI>  
A/Cross-references: UNIPROT: P04724; EMBL: M11075; NID: G170723; PID: AAA34282.1; PID: G170  
C/Superfamily: gliadin  
C/Keywords: seed; storage protein  
F/1-20/Domain: signal sequence #status predicted <Sig>  
F/21-297/Product: alpha/beta-gliadin A-IV #status predicted <MAT>

Query Match 92.8%; Score 90; DB 2; Length 297;  
Best Local Similarity 93.8%; Pred. No. 6.9e-05;  
Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPOQ 16  
 |||||  
 DB 77 QLOPFPQPELPYPOQ 92

## RESULT 3

S10015  
 alpha/beta-gliadin precursor (clone MM1) - wheat  
 C:Species: Triticum aestivum (common wheat)  
 C:Date: 31-Dec-1990 #sequence\_revision 31-Dec-1990 #text\_change 09-Jul-2004  
 C:Accession: S10015  
 R:Garcia-Maroto, F.; Marana, C.; Garcia-Olmedo, F.; Carbonero, P.  
 P:ant Mol. Biol. 14, 867-868, 1990  
 A:Title: Nucleotide sequence of a cDNA encoding an alpha/beta-type gliadin from hexaploid wheat  
 A:Reference number: S10015; MUID:91346679; PMID:2102865  
 A:Accession: S10015  
 A:Molecule type: mRNA  
 A:Residues: 1-307 <GAR>  
 A:Cross-references: UNIPROT:P18573; EMBL:X17361; NID:g21672; PIDN:CAA55238.1; PID:g21673  
 C:Superfamily: gliadin  
 F:1-20/Domain: signal sequence #status predicted <SIG>  
 F:21-307/Product: alpha/beta-gliadin #status predicted <MAT>

Query Match 92.8%; Score 90; DB 2; Length 307;  
 Best Local Similarity 93.8%; Pred. No. 7.1e-05;  
 Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPOQ 16  
 |||||  
 DB 77 QLOPFPQPELPYPOQ 92

## RESULT 4

EMBL  
 alpha/beta-gliadin precursor - wheat  
 N:Alternate names: prolamin  
 C:Species: Triticum aestivum (common wheat)  
 C:Date: 28-May-1986 #sequence\_revision 28-May-1986 #text\_change 09-Jul-2004  
 C:Accession: A03354  
 R:Rafalski, J.A.; Scheets, K.; Metzler, M.; Peterson, D.M.; Hedgcock, C.; Soil, D.G.  
 EMBD v. 3, 1409-1415, 1984  
 A:Title: Developmentally regulated plant genes: the nucleotide sequence of a wheat gliad  
 A:Reference number: A03354; MUID:84261434; PMID:6204862  
 A:Accession: A03354  
 A:Molecule type: DNA  
 A:Residues: 1-286 <RAP>  
 A:Cross-references: UNIPROT:P02863; GB:X00627; GB:X03076; NID:g21752; PIDN:CAA25261.1; F  
 A:Experimental source: cv. Newton  
 C:Comment: Gliadin is the major seed storage protein in wheat.  
 C:Superfamily: gliadin  
 C:Keywords: storage protein; tandem repeat  
 F:1-20/Domain: signal sequence #status predicted <SIG>  
 F:16-108/Region: 6-residue repeats (IQP-O-Q-P-[FY]-P)  
 F:21-286/Product: gliadin #status predicted <GLN>  
 F:116-133/Region: glutamine-rich

Query Match 84.5%; Score 82; DB 1; Length 286;  
 Best Local Similarity 87.5%; Pred. No. 0.00076;  
 Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPOQ 16  
 |||||  
 DB 77 QLOPFPQPELPYPOQ 92

## RESULT 5

S07923  
 alpha/beta-gliadin precursor - wheat  
 C:Species: Triticum aestivum (common wheat)  
 C:Date: 08-Jun-1994 #sequence\_revision 01-Dec-1995 #text\_change 20-Aug-1999  
 C:Accession: S07923  
 R:Summer-Smith, M.; Rafalski, J.A.; Sugiyama, T.; Stoll, M.; Soell, D.

Nucleic Acids Res. 13, 3905-3916, 1985  
 A:Title: Conservation and variability of wheat alpha/beta-gliadin genes.  
 A:Reference number: S07361; MUID:85242077; PMID:3839304  
 A:Accession: S07923  
 A:Status: preliminary; translation not shown  
 A:Molecule type: DNA  
 A:Residues: 1-286 <SUM>  
 A:Cross-references: EMBL:X02539; NID:g21760; PIDN:CAA26384.1; PID:g21761  
 C:Superfamily: gliadin

Query Match 84.5%; Score 82; DB 2; Length 286;  
 Best Local Similarity 87.5%; Pred. No. 0.00076;  
 Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPOQ 16  
 |||||  
 DB 77 QLOPFPQPELPYPOQ 92

## RESULT 6

S07924  
 alpha/beta-gliadin precursor - wheat  
 C:Species: Triticum aestivum (common wheat)  
 C:Date: 08-Jun-1994 #sequence\_revision 01-Dec-1995 #text\_change 09-Jul-2004  
 C:Accession: S07924; C61218  
 R:Summer-Smith, M.; Rafalski, J.A.; Sugiyama, T.; Stoll, M.; Soell, D.  
 Nucleic Acids Res. 13, 3905-3916, 1985  
 A:Title: Conservation and variability of wheat alpha/beta-gliadin genes.  
 A:Reference number: S07361; MUID:85242077; PMID:3839304  
 A:Accession: S07924  
 A:Status: preliminary; translation not shown  
 A:Molecule type: DNA  
 A:Residues: 1-313 <SUM>  
 A:Cross-references: UNIPROT:Q41546; EMBL:X02540; NID:g21764; PIDN:CAA26385.1; PID:g21765  
 R:Shewry, P.R.; Sabelli, P.A.; Panmar, S.; Lafandra, D.  
 Biochem. Genet. 29, 207-211, 1991  
 A:Title: alpha-type prolamins are encoded by genes on chromosomes 4Ha and 6Ha of Haynal  
 A:Reference number: A61218; MUID:91315394; PMID:1859356  
 A:Accession: C61218  
 A:Status: preliminary  
 A:Molecule type: protein  
 A:Residues: 18-27 <SR>  
 C:Superfamily: gliadin  
 C:Keywords: seed; storage protein

Query Match 84.0%; Score 81.5; DB 2; Length 313;  
 Best Local Similarity 72.7%; Pred. No. 0.00097;  
 Matches 16; Conservative 1; Mismatches 0; Indels 5; Gaps 1;

QY 1 QLOPFPQ-----PELPYPOQS 17  
 |||||  
 DB 74 QLOPFPQPELPYPOQ 95

## RESULT 7

A22364  
 alpha/beta-gliadin precursor (clone A42) - wheat  
 N:Alternate names: prolamin  
 C:Species: Triticum aestivum (common wheat)  
 C:Date: 31-Dec-1988 #sequence\_revision 31-Dec-1988 #text\_change 09-Jul-2004  
 C:Accession: A22364  
 R:Okita, T.W.; Cheesbrough, V.; Reeves, C.D.  
 J. Biol. Chem. 260, 8203-8213, 1985  
 A:Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA  
 A:Reference number: A92541; MUID:85234522; PMID:2989281  
 A:Accession: A22364  
 A:Molecule type: mRNA  
 A:Residues: 1-319 <OKI>  
 A:Cross-references: UNIPROT:P04725; GB:M11073; NID:g170715; PIDN:AAA34278.1; PID:g17072  
 C:Superfamily: gliadin  
 F:1-20/Domain: signal sequence #status predicted <SIG>  
 F:21-319/Product: alpha/beta-gliadin #status predicted <MAT>



Query Match 84.0%; Score 81.5; DB 2; Length 319;  
 Best Local Similarity 72.7%; Pred. No. 0.00099;  
 Matches 16; Conservative 1; Mismatches 0; Indels 5; Gaps 1;

QY 1 QLOPFPQ-----PELPYPQ 17  
 DB 77 QLOPFPQPPFPFPQPLPFPQ 98

## RESULT 8

alpha/beta-gliadin precursor (clone A212) - wheat  
 C/Species: Triticum aestivum (common wheat)  
 C/Date: 31-Dec-1988 #sequence\_revision 31-Dec-1988 #text\_change 09-Jul-2004  
 C/Accession: C22364  
 R/Okita, T.W.; Cheesbrough, V.; Reeves, C.D.  
 J. Biol. Chem. 260, 8203-8213, 1985  
 A/Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA  
 A/Reference number: A92541; MUID:85234522; PMID:2989281  
 A/Accession: C22364  
 A/Molecule type: mRNA  
 A/Residues: 1-319 <OKT>  
 A/Cross-references: UNIPROT:P04722  
 C/Superfamily: gliadin  
 F/1-20/Domain: signal sequence #status predicted <SIG>  
 F/21-319/Product: alpha/beta-gliadin #status predicted <MAT>

Query Match 79.9%; Score 77.5; DB 2; Length 319;  
 Best Local Similarity 71.4%; Pred. No. 0.0033;  
 Matches 15; Conservative 1; Mismatches 0; Indels 5; Gaps 1;

QY 1 QLOPFPQ-----PELPYPQ 16  
 DB 77 QLOPFPQPPFPFPQPLPFPQ 97

## RESULT 9

alpha/beta-gliadin precursor (clone A735) - wheat  
 C/Species: Triticum aestivum (common wheat)  
 C/Date: 31-Dec-1988 #sequence\_revision 31-Dec-1988 #text\_change 09-Jul-2004  
 C/Accession: D22364  
 R/Okita, T.W.; Cheesbrough, V.; Reeves, C.D.  
 J. Biol. Chem. 260, 8203-8213, 1985  
 A/Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA  
 A/Reference number: A92541; MUID:85234522; PMID:2989281  
 A/Accession: D22364  
 A/Molecule type: mRNA  
 A/Residues: 1-326 <OKT>  
 A/Cross-references: UNIPROT:P04724  
 C/Superfamily: gliadin  
 F/1-20/Domain: signal sequence #status predicted <SIG>  
 F/21-326/Product: alpha/beta-gliadin #status predicted <MAT>

Query Match 79.9%; Score 77.5; DB 2; Length 326;  
 Best Local Similarity 71.4%; Pred. No. 0.0034;  
 Matches 15; Conservative 1; Mismatches 0; Indels 5; Gaps 1;

QY 1 QLOPFPQ-----PELPYPQ 16  
 DB 77 QLOPFPQPPFPFPQPLPFPQ 97

## RESULT 10

T06282  
 alpha-gliadin precursor - wheat  
 C/Species: Triticum aestivum (common wheat)  
 C/Date: 30-Apr-1999 #sequence\_revision 30-Apr-1999 #text\_change 09-Jul-2004  
 C/Accession: T06282  
 R/Anderson, O.D.  
 submitted to the EMBL Data Library, March 1996  
 A/Reference number: Z15587  
 A/Accession: T06282

A/Status: preliminary; translated from GB/EMBL/DDBJ  
 A/Molecule type: DNA  
 A/Residues: 1-288 <AND>  
 A/Cross-references: UNIPROT:Q41530; EMBL:U51304; NID:g1256787; PIDN:AA96523.1; PID:g12;  
 A/Experimental source: cv. Cheyenne  
 C/Superfamily: gliadin  
 C/Keywords: seed; storage protein

Query Match 76.3%; Score 74; DB 2; Length 288;  
 Best Local Similarity 81.2%; Pred. No. 0.0087;  
 Matches 13; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 QLOPFPQPELPYPQ 16  
 DB 77 QLOPFPQPPFPFPQPLPFPQ 92

## RESULT 11

gliadin - wheat  
 C/Species: Triticum aestivum (common wheat)  
 C/Date: 04-Mar-1988 #sequence\_revision 04-Mar-1988 #text\_change 03-Feb-1994  
 C/Accession: A27319  
 R/Reeves, C.D.; Okita, T.W.  
 Gene 52, 257-266, 1987  
 A/Title: Analyses of alpha/beta-type gliadin genes from diploid and hexaploid wheats.  
 A/Reference number: A27319; MUID:8727398; PMID:3036689  
 A/Accession: A27319  
 A/Status: preliminary  
 A/Molecule type: DNA  
 A/Residues: 1-296 <REE>  
 C/Superfamily: gliadin

Query Match 74.7%; Score 72.5; DB 2; Length 296;  
 Best Local Similarity 70.0%; Pred. No. 0.014;  
 Matches 14; Conservative 1; Mismatches 0; Indels 5; Gaps 1;

QY 1 QLOPFPQ-----PELPYPQ 15  
 DB 77 QLOPFPQPPFPFPQPLPFPQ 96

## RESULT 12

alpha/beta-gliadin precursor (clone PM215) - wheat  
 C/Species: Triticum aestivum (common wheat)  
 C/Date: 08-Jun-1994 #sequence\_revision 01-Dec-1995 #text\_change 09-Jul-2004  
 C/Accession: S07361  
 R/Summer-Smith, W.; Rafalaki, J.A.; Sugiyama, T.; Stoll, M.; Seel, D.  
 Nucleic Acids Res. 13, 3905-3916, 1985  
 A/Title: Conservation and variability of wheat alpha/beta-gliadin genes.  
 A/Reference number: S07361; MUID:85242077; PMID:3839304  
 A/Accession: S07361  
 A/Status: preliminary  
 A/Molecule type: DNA  
 A/Residues: 1-296 <SUM>  
 A/Cross-references: UNIPROT:P04726; EMBL:X02538; NID:g21756; PIDN:CAA26383.1; PID:g2175  
 C/Superfamily: gliadin  
 C/Keywords: seed; storage protein

Query Match 74.7%; Score 72.5; DB 2; Length 296;  
 Best Local Similarity 70.0%; Pred. No. 0.014;  
 Matches 14; Conservative 1; Mismatches 0; Indels 5; Gaps 1;

QY 1 QLOPFPQ-----PELPYPQ 15  
 DB 77 QLOPFPQPPFPFPQPLPFPQ 96

## RESULT 13

T05737  
 probable hordein C - barley  
 C/Species: Hordeum vulgare (barley)



GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 14, 2004, 16:56:07 ; Search time 38.25 Seconds  
(without alignments)  
29.475 Million cell updates/sec

Title: US-10-089-700-2

Perfect score: 97

Sequence: 1 QLOPFPQPELPPQPOS 17

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 478139 segs, 66318000 residues

Total number of hits satisfying chosen parameters: 478139

Minimum DB seg length: 0  
Maximum DB seg length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents AA:\*  
1: /cgn2\_6/ptodata/1/aa/5A.COMB.pep:\*  
2: /cgn2\_6/ptodata/1/aa/5B.COMB.pep:\*  
3: /cgn2\_6/ptodata/1/aa/6A.COMB.pep:\*  
4: /cgn2\_6/ptodata/1/aa/6B.COMB.pep:\*  
5: /cgn2\_6/ptodata/1/aa/6C.COMB.pep:\*  
6: /cgn2\_6/ptodata/1/aa/backfilest.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match Length	DB ID	Description
1	58.5	60.3	261 4	US-09-602-565-34 Sequence 34, Appl
2	53.5	55.2	613 4	US-09-345-473E-39 Sequence 39, Appl
3	52	53.6	728 4	US-09-508-824-10 Sequence 10, Appl
4	51.5	53.1	558 4	US-09-252-991A-17202 Sequence 17202, A
5	51	52.6	23 3	US-08-460-269C-8 Sequence 8, Appl
6	51	52.6	24 3	US-08-750-624-11 Sequence 11, Appl
7	51	52.6	24 4	US-08-261-194-11 Sequence 11, Appl
8	51	52.6	910 3	US-08-460-269C-2 Sequence 2, Appl
9	50	51.5	129 3	US-09-199-637A-57 Sequence 97, Appl
10	50	51.5	132 4	US-08-529-055-63 Sequence 63, Appl
11	50	51.5	204 4	US-09-248-796A-18436 Sequence 18436, A
12	50	51.5	406 4	US-09-286-981B-18 Sequence 18, Appl
13	50	51.5	8991 4	US-08-714-741-32 Sequence 32, Appl
14	49.5	51.0	81 4	US-09-248-796A-22774 Sequence 22774, A
15	49	50.5	337 4	US-08-930-830B-2 Sequence 2, Appl
16	49	50.5	342 4	US-08-930-830B-5 Sequence 5, Appl
17	49	50.5	2004 4	US-09-538-092-1371 Sequence 1371, Ap
18	48	49.5	33 1	US-08-237-716-11 Sequence 11, Appl
19	48	49.5	271 4	US-09-248-796A-22728 Sequence 22728, A
20	48	49.5	507 4	US-09-538-092-1351 Sequence 1251, Ap
21	48	49.5	507 5	PCT-US93-08356-8 Sequence 8, Appl
22	48	49.5	790 4	US-09-470-767-45954 Sequence 45954, A
23	47.5	49.0	24 4	US-09-379-297-5 Sequence 5, Appl
24	47.5	49.0	24 4	US-09-703-399A-79 Sequence 79, Appl
25	47.5	49.0	35 1	US-08-471-780C-38 Sequence 38, Appl
26	47.5	49.0	35 1	US-08-467-282B-38 Sequence 38, Appl
27	47.5	49.0	35 2	US-08-471-282A-38 Sequence 38, Appl

28	47.5	49.0	35 2	US-08-466-710C-38 Sequence 38, Appl
29	47.5	49.0	35 3	US-08-468-739C-38 Sequence 38, Appl
30	47.5	49.0	35 4	US-09-293-769A-38 Sequence 38, Appl
31	47.5	49.0	54 1	US-08-471-780C-44 Sequence 44, Appl
32	47.5	49.0	54 1	US-08-467-282B-44 Sequence 44, Appl
33	47.5	49.0	54 2	US-08-467-282B-44 Sequence 44, Appl
34	47.5	49.0	54 2	US-08-466-710C-44 Sequence 44, Appl
35	47.5	49.0	54 3	US-08-468-739C-44 Sequence 44, Appl
36	47.5	49.0	54 4	US-09-293-769A-44 Sequence 44, Appl
37	47.5	49.0	60 1	US-08-471-780C-87 Sequence 87, Appl
38	47.5	49.0	60 1	US-08-467-282B-87 Sequence 87, Appl
39	47.5	49.0	60 2	US-08-466-710C-87 Sequence 87, Appl
40	47.5	49.0	60 2	US-08-468-739C-87 Sequence 87, Appl
41	47.5	49.0	60 3	US-09-124-671-25 Sequence 25, Appl
42	47.5	49.0	60 4	US-09-124-671-17 Sequence 17, Appl
43	47.5	49.0	105 3	US-09-124-671-19 Sequence 19, Appl
44	47.5	49.0	109 3	US-09-124-671-19 Sequence 19, Appl
45	47.5	49.0	109 3	US-09-124-671-19 Sequence 19, Appl

## ALIGNMENTS

```

RESULT 1
US-09-602-565-34
; Sequence 34, Application US/09602565
; Patent No. 6500642
; GENERAL INFORMATION:
; APPLICANT: Yue, Henry
; APPLICANT: Patterson, Chandra
; APPLICANT: Corley, Neil C.
; APPLICANT: Giesler, Karl J.
; TITLE OF INVENTION: MOLECULE ASSOCIATED WITH APOPTOSIS
; FILE REFERENCE: PC-0018 US
; CURRENT APPLICATION NUMBER: US/09/602,565
; PRIOR FILING DATE: 2000-06-22
; PRIOR APPLICATION NUMBER: 09/106,120
; PRIOR FILING DATE: 1998-06-29
; NUMBER OF SEQ ID NOS: 34
; SOFTWARE: PERL Program
; SEQ ID NO 34
; LENGTH: 261
; TYPE: PRT
; ORGANISM: Mus musculus
; FEATURE:
; NAME/KEY: misc feature
; OTHER INFORMATION: incyte ID No. 6500642 g1469400
US-09-602-565-34
Query Match 60.3%; Score 58.5; DB 4; Length 261;
Best Local Similarity 64.7%; Pred. No. 1.6;
Matches 11; Conservative 3; Mismatches 2; Indels 1; Gaps 1;
OY 1 QLOPFPQPELPPQPO 16
DB 162 QLOPFPQPELPPQPO 178
RESULT 2
US-09-345-473E-39
; Sequence 39, Application US/09345473E
; Patent No. 6558903
; GENERAL INFORMATION:
; APPLICANT: Hodge, Martin
; TITLE OF INVENTION: No. 6558903el Kinases and Uses Thereof
; FILE REFERENCE: 35800/183781
; CURRENT APPLICATION NUMBER: US/09/345,473E
; CURRENT FILING DATE: 1999-06-30
; NUMBER OF SEQ ID NOS: 62
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 39
; LENGTH: 613
; TYPE: PRT

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MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/750,624  
FILING DATE: 26-FEB-1997  
CLASSIFICATION: 424  
ATTORNEY/AGENT INFORMATION:  
NAME: Stewart, Michael I.  
REGISTRATION NUMBER: 24,973  
REFERENCE/DOCKET NUMBER: 1038-660  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (416) 595-1155  
TELEFAX: (416) 595-1163  
INFORMATION FOR SEQ ID NO: 11:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 24 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
US-08-750-624-11

Query Match 52.6%; Score 51; DB 3; Length 24;  
Best Local Similarity 75.0%; Pred. No. 1.4;  
Matches 9; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 4 PFPQPELPYPOP 15  
Db 11 PQQPPEAPAPQP 22

RESULT 7  
US-08-261-194-11:  
Sequence 11, Application US/08261194  
Patent No. 6764682  
GENERAL INFORMATION:  
APPLICANT: KANDIL, Ali  
APPLICANT: JAMES, Olive A.  
APPLICANT: KLEIN, Michel H.  
APPLICANT: CHONG, Pele  
TITLE OF INVENTION: ADJUVANT COMPOSITIONS  
NUMBER OF SEQUENCES: 16  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Slim & McBurney  
STREET: Suite 701, 330 University Avenue  
CITY: Toronto  
STATE: Ontario  
COUNTRY: Canada  
ZIP: M5T 1R7  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.25  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/261,194  
FILING DATE: June 16, 1994  
CLASSIFICATION: 514  
ATTORNEY/AGENT INFORMATION:  
NAME: STEWART, Michael I.  
REGISTRATION NUMBER: 24,973  
REFERENCE/DOCKET NUMBER: 1038-339 MIS-JB  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (416) 595-1155  
TELEFAX: (416) 595-1163  
INFORMATION FOR SEQ ID NO: 11:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 24 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
US-08-261-194-11

Query Match 52.6%; Score 51; DB 4; Length 24;  
Best Local Similarity 75.0%; Pred. No. 1.4;  
Matches 9; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 4 PFPQPELPYPOP 15  
Db 11 PQQPPEAPAPQP 22

RESULT 8  
US-08-460-269C-2  
Sequence 2, Application US/08460269C  
Patent No. 6197548  
GENERAL INFORMATION:  
APPLICANT: CLARE, JEFFREY J.  
APPLICANT: ROMANOS, MICHAEL A.  
TITLE OF INVENTION: EXPRESSION OF HETEROLOGOUS PROTEIN IN YEAST  
NUMBER OF SEQUENCES: 17  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Millen, White, Zelano & Branigan, P.C.  
STREET: 2200 Clarendon Blvd., Suite 1400  
CITY: ARLINGTON  
STATE: VA  
COUNTRY: USA  
ZIP: 22201  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/460,269C  
FILING DATE: 02-Jun-1995  
ATTORNEY/AGENT INFORMATION:  
NAME: Lebovitz, Richard M.  
REGISTRATION NUMBER: 37,067  
REFERENCE/DOCKET NUMBER: Popov-2  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (703) 243-6333  
TELEFAX: (703) 243-6410  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 910 amino acids  
TYPE: amino acid  
MOLECULE TYPE: protein  
TOPOLOGY: linear  
SEQUENCE DESCRIPTION: SEQ ID NO: 2:  
US-08-460-269C-2

Query Match 52.6%; Score 51; DB 3; Length 910;  
Best Local Similarity 75.0%; Pred. No. 53;  
Matches 9; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 4 PFPQPELPYPOP 15  
Db 589 PQQPPEAPAPQP 600

RESULT 9  
US-09-199-637A-97  
Sequence 97, Application US/09199637A  
Patent No. 6355411  
GENERAL INFORMATION:  
APPLICANT: Ausubel, Frederick  
APPLICANT: Goodman, Howard M.  
APPLICANT: Rahme, Laurence G.  
APPLICANT: Mahajan-Miklos, Shalina  
APPLICANT: Tan, Man-Wah  
APPLICANT: Cao, Hui  
APPLICANT: Drenkard, Eliana  
APPLICANT: Tsongalis, John

TITLE OF INVENTION: VIRULENCE-ASSOCIATED NUCLEIC ACID  
TITLE OF INVENTION: SEQUENCES AND USES THEREOF  
FILE REFERENCE: 00786/361002  
CURRENT APPLICATION NUMBER: US/09/199,637A  
CURRENT FILING DATE: 1998-11-25  
PRIOR APPLICATION NUMBER: 60/066,517  
PRIOR FILING DATE: 1997-11-25  
NUMBER OF SEQ ID NOS: 437  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 97  
LENGTH: 129  
TYPE: PRT  
ORGANISM: Pseudomonas aeruginosa  
US-09-199-637A-97

Query Match 51.5%; Score 50; DB 3; Length 129;  
Best Local Similarity 64.3%; Pred. No. 10;  
Matches 9; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 3 QPPEPELPYPOQ 16  
DB 16 RPPPEPLPPPPQ 29

RESULT 10  
US-08-529-055-63  
Sequence 63, Application US/08529055  
Patent No. 6592876

GENERAL INFORMATION:  
APPLICANT: Briles, David E.  
APPLICANT: McDaniel, Larry S.  
APPLICANT: Swatlo, Edwin  
APPLICANT: Yother, Janet  
APPLICANT: Brooks-Walter, Alexis  
TITLE OF INVENTION: Pneumococcal Genes, Portions  
TITLE OF INVENTION: Thereof, Expression Products  
TITLE OF INVENTION: Therefrom, and Uses of Such Genes,  
TITLE OF INVENTION: Portions and Products  
NUMBER OF SEQUENCES: 73  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Curtis, Morris & Safford, P.C.  
STREET: 530 Fifth Avenue  
CITY: New York  
STATE: NY  
COUNTRY: USA  
ZIP: 10036

COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/529,055  
FILING DATE: 15-SEP-1995  
CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:  
NAME: Frommer, William S.  
REGISTRATION NUMBER: 25,506  
REFERENCE/DOCKET NUMBER: 454312-2400  
TELEPHONE: (212) 840-3333  
TELEFAX: (212) 840-0712  
INFORMATION FOR SEQ ID NO: 63:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 132 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: peptide  
US-08-529-055-63

Query Match 51.5%; Score 50; DB 4; Length 132;  
Best Local Similarity 64.3%; Pred. No. 10;

Matches 9; Conservative 1; Mismatches 4; Indels 0; Gaps 0;  
QY 4 PPEPELPYPOQS 17  
DB 119 PAPPEEQPADPKS 132

RESULT 11  
US-09-248-796A-18436  
Sequence 18436, Application US/09248796A  
Patent No. 6747137  
GENERAL INFORMATION:  
APPLICANT: Keith Weinstock et al  
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS  
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS  
FILE REFERENCE: 107136.132  
CURRENT APPLICATION NUMBER: US/09/248,796A  
CURRENT FILING DATE: 1999-02-12  
PRIOR APPLICATION NUMBER: US 60/074,725  
PRIOR FILING DATE: 1998-02-13  
PRIOR APPLICATION NUMBER: US 60/096,409  
PRIOR FILING DATE: 1998-08-13  
NUMBER OF SEQ ID NOS: 28208  
SEQ ID NO 18436  
LENGTH: 204  
TYPE: PRT  
ORGANISM: Candida albicans  
US-09-248-796A-18436

Query Match 51.5%; Score 50; DB 4; Length 204;  
Best Local Similarity 62.5%; Pred. No. 16;  
Matches 10; Conservative 0; Mismatches 6; Indels 0; Gaps 0;

QY 1 QLOPPEPELPYPOQ 16  
DB 92 QQQQQPPAPQPPQ 107

RESULT 12  
US-09-286-981B-18  
Sequence 18, Application US/09286981B  
Patent No. 6503511  
GENERAL INFORMATION:  
APPLICANT: Wizemann, Theresa M.  
APPLICANT: Koenig, Scott  
APPLICANT: Johnson, Leslie S  
TITLE OF INVENTION: Derivatives of Choline Binding Proteins for Vaccines  
FILE REFERENCE: 469201-396  
CURRENT APPLICATION NUMBER: US/09/286,981B  
CURRENT FILING DATE: 1999-04-06  
PRIOR APPLICATION NUMBER: US 60/085,743  
PRIOR FILING DATE: 1998-05-15  
NUMBER OF SEQ ID NOS: 38  
SOFTWARE: Patentin Ver. 2.1  
SEQ ID NO 18  
LENGTH: 406  
TYPE: PRT  
ORGANISM: Streptococcus pneumoniae  
US-09-286-981B-18

Query Match 51.5%; Score 50; DB 4; Length 406;  
Best Local Similarity 57.1%; Pred. No. 32;  
Matches 8; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 4 PPEPELPYPOQS 17  
DB 378 PAPPEEQPADPKPEN 391

RESULT 13  
US-08-714-741-32  
Sequence 32, Application US/08714741  
Patent No. 6500613

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GENERAL INFORMATION:
APPLICANT: Bries, David E.
APPLICANT: McDaniel, Larry S.
APPLICANT: Swatlo, Edwin
APPLICANT: Yother, Janet
APPLICANT: Crain, Marilyn J.
APPLICANT: Hollingshead, Susan
APPLICANT: Tart, Rebecca
APPLICANT: Brooks-Walter, Alexis
TITLE OF INVENTION: PNEUMOCOCCAL GENES, PORTIONS THEREOF,
TITLE OF INVENTION: EXPRESSION PRODUCTS THEREFROM, AND USES OF SUCH GENES,
TITLE OF INVENTION: PORTIONS AND PRODUCTS
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
ADDRESSEE: Curtis, Morris & Safford, P.C.
STREET: 530 Fifth Avenue
CITY: New York
STATE: New York
COUNTRY: U.S.
ZIP: 10036
COMPUTER AVAILABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/714,741
FILING DATE: 16-SEP-1996
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Frommer Esq., William S.
REGISTRATION NUMBER: 25,506
REFERENCE/DOCKET NUMBER: 454312-2460
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 840-3333
TELEFAX: (212) 840-0712
INFORMATION FOR SEQ ID NO: 32:
SEQUENCE CHARACTERISTICS:
LENGTH: 8991 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: amino acid
US-08-714-741-32

Query Match 51.5%; Score 50; DB 4; Length 8991;
Best Local Similarity 64.3%; Pred. No. 7.1e+02;
Matches 9; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

CY 4 PFPQELPYPOPOS 17
DB 7523 PAPOEOPAPAPKS 7536

RESULT 14
US-09-248-796A-22774
Sequence 22774, Application US/09248796A
Patent No. 6747137
GENERAL INFORMATION:
APPLICANT: Keith Weinstein et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANT
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107196.132
CURRENT APPLICATION NUMBER: US/09/248,796A
CURRENT FILING DATE: 1999-02-12
PRIOR APPLICATION NUMBER: US 60/074,725
PRIOR FILING DATE: 1998-02-13
PRIOR APPLICATION NUMBER: US 60/096,409
PRIOR FILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 28208
SEQ ID NO 22774
LENGTH: 91
TYPE: PRT

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US-09-248-796A-22774
ORGANISM: Candida albicans
Query Match          51.0%; Score 49.5; DB 4; Length 81;
Best Local Similarity 52.9%; Pred. No. 7.4;
Matches      9; Conservative    5; Mismatches      2; Indels      1; Gaps      1;

OY      1 QLOPFPOPELPPOPOS 17
       :|:|||||:|||:
Db      53 ELEPEPEPE-PEPEPES 68

RESULT 15
US-08-930-830B-2
Sequence 2, Application US/08930830B
Patent No. 6514712
GENERAL INFORMATION:
APPLICANT: Peters, Heiko
APPLICANT: Balling, Rudolf
APPLICANT: Hoeller, Heinz
APPLICANT: Richerz, Thomas
TITLE OF INVENTION: No. 6514712el probe for early diagnosis of epithelial
TITLE OF INVENTION: dysplasias of the stratified squamous epithelium and for
TITLE OF INVENTION: tumour diagnosis and tumour therapy of squamous epithelial
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSSEE: NIXON & VANDERHAYE P.C.
STREET: 1100 No. 6514712th Glebe Rd. 8th floor
CITY: Arlington
STATE: VA
COUNTRY: USA
ZIP: 22201-4741
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/930, 830B
FILING DATE: 16-JAN-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/EP97/00564
FILING DATE: 07-FEB-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 19605105.3
FILING DATE: 12-FEB-1996
ATTORNEY/AGENT INFORMATION:
NAME: Sadchoff, B.J.
REGISTRATION NUMBER: 36, 663
REFERENCE/DOCKET NUMBER: 2861-6
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-816-4000
TELEFAX: 703-816-4100
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 337 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-930-830B-2

Query Match          50.5%; Score 49; DB 4; Length 337;
Best Local Similarity 52.4%; Pred. No. 36;
Matches      11; Conservative    0; Mismatches      4; Indels      6; Gaps      1;

OY      1 QLOPPPOPELP-----YPQP 15
       |||||
Db     143 QHOPTPOPALPYNHVSYSPSP 163

Search completed: December 14, 2004, 17:00:57
Job time : 39.25 secs
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GenCore version 5.1.6  
Copyright (c) 1993 - 2004 CompuGen Ltd.

CM protein - protein search, using sw model

Run on: December 14, 2004, 16:56:07 ; Search time 141.667 Seconds  
(without alignments)  
42.861 Million cell updates/sec

Title: US-10-089-700-2

Perfect score: 97  
Sequence: 1 QLOPFPQELPFPQPS 17

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1585576 seqs, 357178320 residues

Total number of hits satisfying chosen parameters: 1585576

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :

Published Applications AA:\*  
1: /cgn2\_6/ptodata/1/pubpaa/US07\_PUBCOMB.pep:\*  
2: /cgn2\_6/ptodata/1/pubpaa/PCTI\_NEW\_PUB.pep:\*  
3: /cgn2\_6/ptodata/1/pubpaa/US06\_NEW\_PUB.pep:\*  
4: /cgn2\_6/ptodata/1/pubpaa/US06\_PUBCOMB.pep:\*  
5: /cgn2\_6/ptodata/1/pubpaa/US07\_NEW\_PUB.pep:\*  
6: /cgn2\_6/ptodata/1/pubpaa/PCTIS\_PUBCOMB.pep:\*  
7: /cgn2\_6/ptodata/1/pubpaa/US08\_NEW\_PUB.pep:\*  
8: /cgn2\_6/ptodata/1/pubpaa/US08\_PUBCOMB.pep:\*  
9: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep:\*  
10: /cgn2\_6/ptodata/1/pubpaa/US09\_PUBCOMB.pep:\*  
11: /cgn2\_6/ptodata/1/pubpaa/US09C\_PUBCOMB.pep:\*  
12: /cgn2\_6/ptodata/1/pubpaa/US09C\_PUBCOMB.pep:\*  
13: /cgn2\_6/ptodata/1/pubpaa/US10A\_PUBCOMB.pep:\*  
14: /cgn2\_6/ptodata/1/pubpaa/US10B\_PUBCOMB.pep:\*  
15: /cgn2\_6/ptodata/1/pubpaa/US10C\_PUBCOMB.pep:\*  
16: /cgn2\_6/ptodata/1/pubpaa/US10D\_PUBCOMB.pep:\*  
17: /cgn2\_6/ptodata/1/pubpaa/US10D\_NEW\_PUB.pep:\*  
18: /cgn2\_6/ptodata/1/pubpaa/US11\_NEW\_PUB.pep:\*  
19: /cgn2\_6/ptodata/1/pubpaa/US60\_NEW\_PUB.pep:\*  
20: /cgn2\_6/ptodata/1/pubpaa/US60\_PUBCOMB.pep:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	90	92.8	33	US-10-367-405-12	Sequence 12, Appl
2	90	92.8	298	US-10-733-930-9770	Sequence 9777, Ap
3	82	84.5	287	US-10-733-930-9777	Sequence 9777, Ap
4	81.5	84.0	319	US-10-733-930-9619	Sequence 9619, Ap
5	69	71.1	12	US-10-367-405-14	Sequence 14, Appl
6	66	68.0	12	US-10-367-405-1	Sequence 1, Appl
7	66	68.0	12	US-10-367-405-2	Sequence 2, Appl
8	66	68.0	12	US-10-474-955-15	Sequence 15, Appl
9	66	68.0	13	US-10-367-405-17	Sequence 17, Appl
10	66	68.0	14	US-10-367-405-17	Sequence 18, Appl
11	63.5	65.5	34	US-10-367-405-24	Sequence 24, Appl
12	63	64.9	13	US-10-367-405-4	Sequence 4, Appl
13	63	64.9	14	US-10-367-405-3	Sequence 3, Appl

#### ALIGNMENTS

14	63	64.9	14	US-10-367-405-15	Sequence 15, Appl
15	63	64.9	14	US-10-474-955-14	Sequence 14, Appl
16	63	64.9	20	US-10-474-955-25	Sequence 25, Appl
17	63	64.9	77	US-10-437-983-135056	Sequence 135056,
18	63	64.9	282	US-10-474-955-101	Sequence 101, App
19	62.5	64.4	19	US-10-239-313A-409	Sequence 409, App
20	62.5	64.4	21	US-10-474-955-52	Sequence 52, Appl
21	60.5	62.4	19	US-10-367-405-7	Sequence 27, Appl
22	60.5	62.4	30	US-10-301-822-155	Sequence 155, App
23	60.5	61.9	400	US-10-367-405-17	Sequence 180574,
24	59.5	61.3	883	US-10-437-983-180574	Sequence 9823, Ap
25	59.5	60.8	327	US-10-733-930-9623	Sequence 5, Appl
26	58.5	60.3	11	US-10-367-405-5	Sequence 11, Appl
27	58.5	59.8	17	US-10-280-953-17	Sequence 21, Appl
28	58.5	59.8	52	US-09-855-754-21	Sequence 21, Appl
29	58.5	59.8	52	US-10-302-896-21	Sequence 21, Appl
30	58.5	59.8	52	US-10-302-896-21	Sequence 22, Appl
31	58.5	59.8	54	US-09-855-754-23	Sequence 22, Appl
32	58.5	59.8	54	US-10-302-896-22	Sequence 22, Appl
33	57	58.8	10	US-10-367-405-10	Sequence 10, Appl
34	56.5	58.2	302	US-10-225-066A-94	Sequence 94, Appl
35	56.5	58.2	302	US-10-374-780A-2166	Sequence 2166, Ap
36	56.5	58.2	302	US-10-412-699B-1908	Sequence 1908, Ap
37	56.5	58.2	302	US-10-669-824-8	Sequence 8, Appl
38	55.5	57.2	20	US-10-474-955-21	Sequence 21, Appl
39	55.5	57.2	21	US-10-474-955-49	Sequence 49, Appl
40	55.5	57.2	30	US-10-367-405-26	Sequence 26, Appl
41	55.5	57.2	578	US-10-156-761-12544	Sequence 12544, A
42	55	56.7	21	US-10-156-761-12544	Sequence 50, Appl
43	55	56.7	21	US-10-474-955-50	Sequence 51, Appl
44	55	56.7	17	US-10-474-955-51	Sequence 137676,
45	54.5	56.2	17	US-10-437-983-137676	Sequence 64, Appl

RESULT 1  
US-10-367-405-12  
Sequence 12, Application US/10367405  
Publication No. US20030215438A1  
GENERAL INFORMATION:  
APPLICANT: Gary Hausch  
APPLICANT: Lu Shan  
TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE  
FILE REFERENCE: STAN-258US1  
CURRENT APPLICATION NUMBER: US/10/367,405  
CURRENT FILING DATE: 2003-02-14  
PRIOR APPLICATION NUMBER: 60/357,238  
PRIOR FILING DATE: 2002-02-14  
PRIOR APPLICATION NUMBER: 60/380,761  
PRIOR FILING DATE: 2002-05-14  
PRIOR APPLICATION NUMBER: 60/392,782  
PRIOR FILING DATE: 2002-06-28  
PRIOR APPLICATION NUMBER: 60/422,933  
PRIOR FILING DATE: 2002-10-31  
PRIOR APPLICATION NUMBER: 60/428,033  
PRIOR FILING DATE: 2002-11-20  
PRIOR APPLICATION NUMBER: 60/435,881  
PRIOR FILING DATE: 2002-12-20  
NUMBER OF SEQ ID NOS: 27  
SOFTWARE: PasteSeq for Windows Version 4.0  
SEQ ID NO 12  
LENGTH: 33  
TYPE: PRT  
ORGANISM: triticum aestivum

Query Match 92.8% ; Score 90; DB 14; Length 33;  
Best Local Similarity 93.8% ; Pred. NO. 0.00049;  
Matches 15; Conservative 1; Mismatches 0; Gaps 0;

QY 1 QLOPFPQPLPYPOQ 16  
 DB 2 QLOPFPQPLPYPOQ 17

## RESULT 2

US-10-739-930-9770

Sequence 9770, Application US/10739930  
 Publication No. US20040216190A1

GENERAL INFORMATION:

APPLICANT: Kovalic, David K.

TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH PLANTS AND USES THEREOF FOR PLANT IMPROVEMENT

FILE REFERENCE: 38-21(53377)B

CURRENT APPLICATION NUMBER: US/10/739,930

CURRENT FILING DATE: 2003-12-18

NUMBER OF SEQ ID NOS: 11088

SEQ ID NO 9770

LENGTH: 298

TYPE: PRT

ORGANISM: Triticum aestivum

FEATURE:

OTHER INFORMATION: Clone ID: TRIA-23APR03-C176\_183.p

US-10-739-930-9770

Query Match 92.8%; Score 90; DB 17; Length 298;  
 Best Local Similarity 93.8%; Pred. No. 0.0039;

Matches 15; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPFPQPLPYPOQ 16  
 DB 77 QLOPFPQPLPYPOQ 92

## RESULT 3

US-10-739-930-9777

Sequence 9777, Application US/10739930  
 Publication No. US20040216190A1

GENERAL INFORMATION:

APPLICANT: Kovalic, David K.

TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH PLANTS AND USES THEREOF FOR PLANT IMPROVEMENT

FILE REFERENCE: 38-21(53377)B

CURRENT APPLICATION NUMBER: US/10/739,930

CURRENT FILING DATE: 2003-12-18

NUMBER OF SEQ ID NOS: 11088

SEQ ID NO 9777

LENGTH: 287

TYPE: PRT

ORGANISM: Triticum aestivum

FEATURE:

OTHER INFORMATION: Clone ID: TRIA-23APR03-C176\_238.p

US-10-739-930-9777

Query Match 84.5%; Score 82; DB 17; Length 287;  
 Best Local Similarity 87.5%; Pred. No. 0.034;

Matches 14; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 QLOPFPQPLPYPOQ 16  
 DB 77 QLOPFPQPLPYPOQ 92

## RESULT 4

US-10-739-930-9619

Sequence 9619, Application US/10739930  
 Publication No. US20040216190A1

GENERAL INFORMATION:

APPLICANT: Kovalic, David K.

TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH PLANTS AND USES THEREOF FOR PLANT IMPROVEMENT

FILE REFERENCE: 38-21(53377)B

*Handwritten signature/initials*

CURRENT APPLICATION NUMBER: US/10/739,930  
 CURRENT FILING DATE: 2003-12-18  
 NUMBER OF SEQ ID NOS: 11088  
 SEQ ID NO 9619  
 LENGTH: 319  
 TYPE: PRT  
 ORGANISM: Triticum aestivum  
 FEATURE:  
 OTHER INFORMATION: Clone ID: TRIA-23APR03-C125\_59.p  
 US-10-739-930-9619

Query Match 84.0%; Score 81.5; DB 17; Length 319;  
 Best Local Similarity 72.7%; Pred. No. 0.043;  
 Matches 16; Conservative 1; Mismatches 0; Indels 5; Gaps 1;

QY 1 QLOPFPQPLPYPOQ 17  
 DB 77 QLOPFPQPLPYPOQ 98

## RESULT 5

US-10-367-405-14

Sequence 14, Application US/10367405  
 Publication No. US20030215438A1

GENERAL INFORMATION:

APPLICANT: Felix Hausch

APPLICANT: Gary Gray

APPLICANT: Lu Shan

TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE

FILE REFERENCE: STRAN-2580S1

CURRENT APPLICATION NUMBER: US/10/367,405

CURRENT FILING DATE: 2003-02-14

PRIOR APPLICATION NUMBER: 60/357,238

PRIOR FILING DATE: 2002-02-14

PRIOR APPLICATION NUMBER: 60/380,761

PRIOR FILING DATE: 2002-05-14

PRIOR APPLICATION NUMBER: 60/392,782

PRIOR FILING DATE: 2002-06-28

PRIOR APPLICATION NUMBER: 60/422,933

PRIOR FILING DATE: 2002-10-31

PRIOR APPLICATION NUMBER: 60/428,033

PRIOR FILING DATE: 2002-11-20

PRIOR APPLICATION NUMBER: 60/435,881

PRIOR FILING DATE: 2002-12-20

SOFTWARE: FastSeq for Windows Version 4.0

SEQ ID NO 14

LENGTH: 12

TYPE: PRT

ORGANISM: Triticum aestivum

US-10-367-405-14

Query Match 71.1%; Score 69; DB 14; Length 12;  
 Best Local Similarity 100.0%; Pred. No. 0.059;  
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 QLOPFPQPLPY 12  
 DB 1 QLOPFPQPLPY 12

## RESULT 6

US-10-367-405-1

Sequence 1, Application US/10367405  
 Publication No. US20030215438A1

GENERAL INFORMATION:

APPLICANT: Felix Hausch

APPLICANT: Gary Gray

APPLICANT: Lu Shan

APPLICANT: Chaitan Khosla

TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE

FILE REFERENCE: STRAN-2580S1

```

; CURRENT APPLICATION NUMBER: US/10/367,405
; CURRENT FILING DATE: 2003-02-14
; PRIOR APPLICATION NUMBER: 60/357,238
; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 12
; TYPE: PRT
; ORGANISM: Triticum aestivum
US-10-367-405-1
```

```

Query Match      68.0%; Score 66; DB 14; Length 12;
Best Local Similarity 91.7%; Pred. No. 0.13;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 QLOPFPQPLPY 12
Db      1 QLOPFPQPLPY 12
```

```

RESULT 7
US-10-367-405-2
```

```

; Sequence 2, Application US/10367405
; Publication No. US20030215438A1
; GENERAL INFORMATION:
; APPLICANT: Felix Hausch
; APPLICANT: Gary Gray
; APPLICANT: Lu Shan
; APPLICANT: Chaitan Khosla
; TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
; FILE REFERENCE: STAN-258US1
; CURRENT APPLICATION NUMBER: US/10/367,405
; CURRENT FILING DATE: 2003-02-14
; PRIOR APPLICATION NUMBER: 60/357,238
; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 12
; TYPE: PRT
; ORGANISM: Triticum aestivum
; NAME/KEY: PYRROLIDONE CAR
; LOCATION: (1)...(1)
; OTHER INFORMATION: N terminal pyroglutamate
US-10-367-405-2
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```

Query Match      68.0%; Score 66; DB 14; Length 12;
Best Local Similarity 91.7%; Pred. No. 0.13;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY      1 QLOPFPQPLPY 12
```

```

Db      1 QLOPFPQPLPY 12
```

```

RESULT 8
US-10-474-955-15
; Sequence 15, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:
; APPLICANT: Drijfhout, Jan W.
; APPLICANT: Konings, Frits
; APPLICANT: McAdam, Stephen N.
; APPLICANT: Ludwig, Scilla Magne
; TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS
; FILE REFERENCE: 2799/71244-PCT-US
; CURRENT APPLICATION NUMBER: US/10/474,955
; CURRENT FILING DATE: 2003-10-13
; NUMBER OF SEQ ID NOS: 137
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 15
; LENGTH: 12
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Epitope Glia-ALPHA9 (57-68)
US-10-474-955-15
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Query Match      68.0%; Score 66; DB 17; Length 12;
Best Local Similarity 91.7%; Pred. No. 0.13;
Matches 11; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
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```
QY      1 QLOPFPQPLPY 12
Db      1 QLOPFPQPLPY 12
```

```

RESULT 9
US-10-367-405-17
; Sequence 17, Application US/10367405
; Publication No. US20030215438A1
; GENERAL INFORMATION:
; APPLICANT: Felix Hausch
; APPLICANT: Gary Gray
; APPLICANT: Lu Shan
; APPLICANT: Chaitan Khosla
; TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
; FILE REFERENCE: STAN-258US1
; CURRENT APPLICATION NUMBER: US/10/367,405
; CURRENT FILING DATE: 2003-02-14
; PRIOR APPLICATION NUMBER: 60/357,238
; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 17
; LENGTH: 13
; TYPE: PRT
; ORGANISM: Triticum aestivum
US-10-367-405-17
```

```

Query Match      68.0%; Score 66; DB 14; Length 13;
Best Local Similarity 100.0%; Pred. No. 0.14;
Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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OY 6 POPELPYPOQ 16  
| | | | | | | | | |  
Db 1 POPELPYPOQ 11

## RESULT 10

US-10-367-405-18

Sequence 18, Application US/10367405  
Publication No. US20030215438A1

GENERAL INFORMATION:

APPLICANT: Felix Hausch

APPLICANT: Lu Shan

APPLICANT: Gary Gray

APPLICANT: Chaitan Khosla

TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE

FILE REFERENCE: STAN-258US1

CURRENT APPLICATION NUMBER: US/10/367,405

CURRENT FILING DATE: 2003-02-14

PRIOR APPLICATION NUMBER: 60/357,238

PRIOR FILING DATE: 2002-02-14

PRIOR APPLICATION NUMBER: 60/380,761

PRIOR FILING DATE: 2002-05-14

PRIOR APPLICATION NUMBER: 60/392,782

PRIOR FILING DATE: 2002-06-28

PRIOR APPLICATION NUMBER: 60/422,933

PRIOR FILING DATE: 2002-10-31

PRIOR APPLICATION NUMBER: 60/428,033

PRIOR FILING DATE: 2002-11-20

PRIOR APPLICATION NUMBER: 60/435,881

PRIOR FILING DATE: 2002-12-20

NUMBER OF SEQ ID NOS: 27

SOFTWARE: FastSeq for Windows Version 4.0

SEQ ID NO 18

LENGTH: 14

TYPE: PRT

ORGANISM: Triticum aestivum

US-10-367-405-18

Query Match

Best Local Similarity 100.0%; Pred. No. 0.16;

Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 6 POPELPYPOQ 16  
| | | | | | | | | |  
Db 1 POPELPYPOQ 11

## RESULT 11

US-10-367-405-24

Sequence 24, Application US/10367405  
Publication No. US20030215438A1

GENERAL INFORMATION:

APPLICANT: Felix Hausch

APPLICANT: Lu Shan

APPLICANT: Gary Gray

APPLICANT: Chaitan Khosla

TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE

FILE REFERENCE: STAN-258US1

CURRENT APPLICATION NUMBER: US/10/367,405

CURRENT FILING DATE: 2003-02-14

PRIOR APPLICATION NUMBER: 60/357,238

PRIOR FILING DATE: 2002-02-14

PRIOR APPLICATION NUMBER: 60/380,761

PRIOR FILING DATE: 2002-05-14

PRIOR APPLICATION NUMBER: 60/392,782

PRIOR FILING DATE: 2002-06-28

PRIOR APPLICATION NUMBER: 60/422,933

PRIOR FILING DATE: 2002-10-31

PRIOR APPLICATION NUMBER: 60/428,033

PRIOR FILING DATE: 2002-11-20

PRIOR APPLICATION NUMBER: 60/435,881

PRIOR FILING DATE: 2002-12-20

NUMBER OF SEQ ID NOS: 27  
SOFTWARE: FastSeq for Windows Version 4.0  
SEQ ID NO 24  
LENGTH: 34  
TYPE: PRT  
ORGANISM: Triticum aestivum  
US-10-367-405-24

Query Match

Best Local Similarity 65.5%; Score 63.5; DB 14; Length 34;

Matches 12; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

OY 1 QOPFP-PQCPYPOQ 16  
| | | | | | | | | |  
Db 13 QOPFP-PQCPYPOQ 27

## RESULT 12

US-10-367-405-4

Sequence 4, Application US/10367405  
Publication No. US20030215438A1

GENERAL INFORMATION:

APPLICANT: Felix Hausch

APPLICANT: Lu Shan

APPLICANT: Gary Gray

APPLICANT: Chaitan Khosla

TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE

FILE REFERENCE: STAN-258US1

CURRENT APPLICATION NUMBER: US/10/367,405

CURRENT FILING DATE: 2003-02-14

PRIOR APPLICATION NUMBER: 60/357,238

PRIOR FILING DATE: 2002-02-14

PRIOR APPLICATION NUMBER: 60/380,761

PRIOR FILING DATE: 2002-05-14

PRIOR APPLICATION NUMBER: 60/392,782

PRIOR FILING DATE: 2002-06-28

PRIOR APPLICATION NUMBER: 60/422,933

PRIOR FILING DATE: 2002-10-31

PRIOR APPLICATION NUMBER: 60/428,033

PRIOR FILING DATE: 2002-11-20

PRIOR APPLICATION NUMBER: 60/435,881

PRIOR FILING DATE: 2002-12-20

NUMBER OF SEQ ID NOS: 27

SOFTWARE: FastSeq for Windows Version 4.0

SEQ ID NO 4

LENGTH: 13

TYPE: PRT

ORGANISM: Triticum aestivum

US-10-367-405-4

Query Match

Best Local Similarity 64.9%; Score 63; DB 14; Length 13;

Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 6 POPELPYPOQ 16  
| | | | | | | | | |  
Db 1 POPELPYPOQ 11

## RESULT 13

US-10-367-405-3

Sequence 3, Application US/10367405  
Publication No. US20030215438A1

GENERAL INFORMATION:

APPLICANT: Felix Hausch

APPLICANT: Lu Shan

APPLICANT: Gary Gray

APPLICANT: Chaitan Khosla

TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE

FILE REFERENCE: STAN-258US1

CURRENT APPLICATION NUMBER: US/10/367,405

CURRENT FILING DATE: 2003-02-14

PRIOR APPLICATION NUMBER: 60/357,238

```

; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 14
; TYPE: PRT
; ORGANISM: Triticum aestivum
US-10-367-405-3

Query Match          64.9%; Score 63; DB 14; Length 14;
Best Local Similarity 90.9%; Pred. No. 0.35;
Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 6 POPELPYPOPO 16
   |||:|||||
Db 1 POPQLPYPOPO 11
```

```

RESULT 14
US-10-367-405-15
; Sequence 15, Application US/10367405
; Publication No. US20030215438A1
; GENERAL INFORMATION:
; APPLICANT: Felix Hausch
; APPLICANT: Gary Gray
; APPLICANT: Lu Shan
; APPLICANT: Chaitan Khosla
; TITLE OF INVENTION: ENZYME TREATMENT OF FOODSTUFFS FOR CELIAC SPRUE
; FILE REFERENCE: STAN-258US1
; CURRENT APPLICATION NUMBER: US/10/367,405
; PRIOR FILING DATE: 2003-02-14
; PRIOR APPLICATION NUMBER: 60/357,238
; PRIOR FILING DATE: 2002-02-14
; PRIOR APPLICATION NUMBER: 60/380,761
; PRIOR FILING DATE: 2002-05-14
; PRIOR APPLICATION NUMBER: 60/392,782
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/422,933
; PRIOR FILING DATE: 2002-10-31
; PRIOR APPLICATION NUMBER: 60/428,033
; PRIOR FILING DATE: 2002-11-20
; PRIOR APPLICATION NUMBER: 60/435,881
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 27
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 15
; LENGTH: 14
; TYPE: PRT
; ORGANISM: Triticum aestivum
US-10-367-405-15
```

```

Query Match          64.9%; Score 63; DB 14; Length 14;
Best Local Similarity 90.9%; Pred. No. 0.35;
Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 6 POPELPYPOPO 16
   |||:|||||
Db 1 POPELPYPOPO 11
```

```

RESULT 15
US-10-474-955-14
; Sequence 14, Application US/10474955
```

```

; Publication No. US20040241161A1
; GENERAL INFORMATION:
; APPLICANT: Diffhout, Jan W.
; APPLICANT: Koning, Frits
; APPLICANT: McAdam, Stephen N.
; APPLICANT: Ludvig, Sollid Magne
; TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS
; FILE REFERENCE: 2799/71244-PCT-US
; CURRENT APPLICATION NUMBER: US/10/474,955
; PRIOR FILING DATE: 2003-10-13
; NUMBER OF SEQ ID NOS: 137
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 14
; LENGTH: 14
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Epitope GIIA-ALPHA2 (62-75)
US-10-474-955-14
```

```

Query Match          64.9%; Score 63; DB 17; Length 14;
Best Local Similarity 90.9%; Pred. No. 0.35;
Matches 10; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 6 POPELPYPOPO 16
   |||:|||||
Db 1 POPQLPYPOPO 11
```

```

Search completed: December 14, 2004, 17:09:34
Job time : 141.667 secs
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*This Page Blank (uspio)*

GenCore version 5.1.6  
Copyright (c) 1993 - 2004 CompuGen Ltd

OM protein - protein search, using sw model

```
Run on:      December 14, 2004, 17:00:05 ; Search time 76.6667 Seconds
              (without alignments)
              1244.635 Million cell updates/sec
```

Title: US-10-089-700-3-H65  
Perfect score: 1434  
Sequence: 1 VRVPVQLQPNESQQQPE.....CNVIAPYCTIAPFGIFGTN 266

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2002273 seqs, 358729299 residues

Total number of hits satisfying chosen parameters: 2002273

```
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
```

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

```
Database :
1: A_Geneseq23Sep04.*
2: *
3: Geneseqp21980s.*
4: *
5: Geneseqp21990s.*
6: *
7: Geneseqp2000s.*
8: *
9: Geneseqp2001s.*
10: *
11: Geneseqp2002s.*
12: *
13: Geneseqp2003s.*
14: *
15: Geneseqp2004s.*
16: *
17: Geneseqp2005s.*
18: *
19: Geneseqp2006s.*
20: *
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

## SUMMARIES

Query No.	Score	Match	Length	DB	ID	Description
1	1426	99.4	266	4	AAU01799	Aau01799 Wheat A-G
2	1426	99.4	266	8	ADH14513	Adh14513 A-glutadin
3	1266.5	88.3	290	7	AAE38574	AAe38574 Wheat alp
4	1266.5	88.3	290	8	ADP13626	Adp13626 Alpha-2-g
5	463	32.3	369	2	AAW62647	AAw62647 Mature act
6	450.5	31.4	327	7	AD071669	Ado71669 Amino act
7	439.5	30.6	307	8	ADH89338	Adh89338 T. aestiv
8	439.5	30.6	307	8	ADG44134	Adg44134 T. aestiv
9	439.5	30.5	298	8	AD071661	Ado71661 Amino act
10	437.5	29.3	1798	4	ABB71695	Abb71695 Drosophila
11	271	20.3	2285	4	ABE63057	Abbe63057 Drosophila
12	268	18.7	1162	3	AAV96255	AAv96255 Kaposi's
13	268	18.7	1162	3	AAV58500	AAv58500 HIV8 ORF
14	268	18.7	1162	4	AAAB6231	AAab6231 Amino act
15	268	18.7	1162	5	AAAB6231	AAab6231 Kaposi's
16	268	18.7	1162	8	ADJ65896	Adj65896 HIV8 late
17	265.5	18.5	757	8	AD030905	Ado30905 Human pol
18	265.5	18.5	1069	6	ABD07138	ABd07138 Novel hum
19	265.5	18.1	1069	8	ADJ37233	Adj37233 Human nuc
20	259	18.1	905	5	ABE93053	ABe93053 S. cerevis
21	259	18.1	905	6	ABR51330	ABr51330 Protein s
22	259	18.1	905	7	ADK62864	ADk62864 Disease t
23	254	17.7	186	7	ADH89336	Adh89336 H. vulgare
24	254	17.7	186	8	ADG44132	Adg44132 H. vulgare
25	254	17.7	260	8	AD047673	Ado47673 Amino act

25	45	225	15.7	128	4	ABE70377	Abb70377	Drosophila
44	44	225	15.7					
43	43	225	15.8	738	5	AYB91609	AYB91609	S. cerevisiae
42	41	227	15.8	153	3	AYG69495	AYG69495	Human
41	40	226	15.8	748	4	AYG69495	AYG69495	Human
40	39	229	16.0	368	4	ABE63167	ABE63167	Drosophila
39	38	229	16.0	2880	4	ABE61650	ABE61650	Drosophila
38	37	230	16.0	158	3	AYG54568	AYG54568	A. syntherisma
36	35	230	16.0	2703	5	ABE60074	ABE60074	Drosophila
35	34	230	16.1	161	4	ABE59512	ABE59512	Drosophila
34	33	232	16.1	149	6	ABE72673	ABE72673	Polydora
33	33	232	16.2	465	6	ABG02482	ABG02482	S. pneumoniae
32	31	232	16.2	160	8	ADG44131	ADG44131	H. vulgare
31	30	235	16.2	160	7	ADG89335	ADG89335	H. vulgare
30	29	237.5	16.6	1442	7	ADG07968	ADG07968	Rice
29	28	240	16.7	358	7	ADG55556	ADG55556	Human
28	27	240	16.8	1069	4	ABE61305	ABE61305	Drosophila
27	26	249.5	17.4	900	4	ABE62018	ABE62018	Drosophila
26	25	249.5	17.4	1303	4	ABE71039	ABE71039	Drosophila
25	24	241	16.8	100	4	ABE71039	ABE71039	Drosophila

## ALIGNMENTS

RESULT 1  
 AAU01799 standard; protein; 266 AA.  
 ID AAU01799 standard; protein; 266 AA.  
 AC AAU01799;  
 DT 07-SEP-2001 (first entry)  
 DE Wheat A-gliadin.  
 XX  
 XX Wheat: A-gliadin; epitope; coeliac disease; gluten intolerance;  
 KM T-cell binding; antagonist; transglutaminase; transgenic plant.  
 XX  
 OS Triticum aestivum.  
 PN MO200125793-A2.  
 XX  
 PD 12-APR-2001.  
 XX  
 PF 02-OCT-2000; 2000CWO-GB003760.  
 XX  
 PR 01-OCT-1999; 99GB-00023306.  
 XX  
 PA (ISIS-) ISIS INNOVATION LTD.  
 XX  
 PI Anderson RP, Hill AVS, Jewell DP;  
 DR WPI; 2001-300179/31.  
 XX  
 PT Diagnosing coeliac disease or susceptibility to the disease in an  
 PT immunodominant T cell epitope obtained from naturally occurring homolog  
 PT of gliadin.  
 XX  
 PS Claim 1; Page 52; 107pp; English.  
 XX  
 XX The sequence represents wheat A-gliadin. A-gliadin derived peptides of  
 CC the invention are used to test mammalian (preferably human)  
 CC susceptibility to coeliac disease (gluten intolerance). The peptides are  
 CC contacted with a blood sample and T cell recognition measured, a positive  
 CC T-cell recognition indicating a susceptibility to coeliac disease. The  
 CC peptides are useful for inducing tolerance in an individual and  
 CC antagonists to the peptides are useful for treating or preventing coeliac  
 CC disease in an individual and for producing an antibody specific to them  
 CC of a wild-type sequence. A mutant gliadin protein (or its fragment of 15  
 CC amino acids in length) whose wild-type sequence can be modified by  
 CC transglutaminase to a sequence that comprises the epitope, but which has  
 CC been modified in such a way that it does not contain sequence which can







```

XX  The present sequence represents the mature glutenin protein. The DNA
GC  sequence encoding this protein is isolated from the genomic DNA of
GC  Triticum durum L. The gene codes for a low-molecular-weight glutenin
GC  protein and can be used to produce transgenic durum wheat plants with
GC  "better quality characteristics" (no details given). (Updated on 25-MAR-
GC  2003 to correct PI field.) (Updated on 17-OCT-2003 to standardise OS
GC  field)
XX
SS  Sequence 369 AA.
XX
Query Match      32.3%; Score 463; DB 2; Length 369;
Best Local Similarity 40.2%; Pred. No. 1.1e-31;
Matches 134; Conservative 32; Mismatches 87; Indels 80; Gaps 14
XX
QY  6 POLQPNPSQQGP-----GSEVPLVGGQGFPPGQQQGF--PQGPYPGQPPFP----- 50
DE  38 PQQQPQSQQQQPPPLSQQQQPPFSQQQQPPFSQQQPVLPQDPFSQQQLPPFSQQQQPP 97
QY  51 ---SQQFYL-----QLQFPQPHLPYPQPSFPDQ-----EYDPQPYQYSQ 89
DE  98 FSGQQQGVLPQPSFSQQQLPPFSQQQLPPFSQQQGVLPQDPFSQQQPPFSQQQLPPFSQ 157
QY  90 PQQPISQQQAQQQQQQQ-----QQQQQQLQQ-----LLQQQLICMDVYLQ 132
DE  158 QQQQPVLPQGPFSQQQQQQPIPPQQPPFSQQQQPVLLQQQLPFVHPSILQQQLNPQ-KVFLQ 216
QY  133 QH-----NIHARSQVLLQSTYQLLQELCCQHLWQIDPSQCCAIHNVHAITLHQQOK 186
DE  217 QQCSPWMPQSLARSGMLQSSCHWQQGCCQQLLPQIDQSRYSALDAIVYSITLL--QSQ 274
QY  187 QQQQPSQCVSFPQPLQQYPLGGQSRFPSSQNPQAGS-----VQPOLPQFEQ 234
DE  275 QQVQSGSTQIQQQQPPQ---LGGQVSGPQQQSGQQQGGQQPQQQLAHGTFLQPHQIAQLEV 331
QY  235 IRNLALQTLPRMGNVYIAPY--CTIAPFGIFGT 265
DE  332 MTSIALRTLPTRCMNMVPLXRTTTRVPRGV-CT 363
XX
RESULT 6
AD0V1669
TD  AD071669 standard; protein; 297 AA.
XX
AC  AD071669;
XX
DT  12-AUG-2004 (first entry)
XX
DE  Amino acid sequence of a modified glutenin LMW subunit.
XX
KW  Low molecular weight subunit; LMW subunit; glutenin;
KW  wheat cultivar Cheyenne; gliadin; flour; tablet; coeliac disease;
XX  gluten intolerance.
XX
OS  Triticum sp.
XX  Synthetic.
XX
PN  EPI424342-A1.
XX
PD  02-JUN-2004.
XX
PF  27-NOV-2002; 2002EP-00026461.
XX
PR  27-NOV-2002; 2002EP-00026461.
XX
PZ  (BAKE-) BAKEMARK DEUT GMBH.
PZ  (MONS) MONSANTO AGRAR DEUT GMBH.
PZ  (UNIF-) UNIFERN GMBH & CO KG.
PZ  (PURA-) PURATOS NV.
XX
PI  Hinzmann E, Wieser H, Stahl U;
XX
WI  MPI; 2004-402870/38.

```

DR N-PSDE; ADO71668.

XX Novel nucleic acid comprising sequence encoding modified glutenin

PT polypeptide, useful for preparing modified glutenin polypeptide as

PT gliadin substitute in foodstuffs such as dough, pastries and wafers.

XX

XX Claim 16; Fig 11; 43pp; English.

XX

XX The present sequence represents a modified low molecular weight (LMW)

CC subunit of glutenin. The wild type subunit is designated clone LMW6, and

CC is isolated from wheat cultivar Cheyenne. The LMW6 polypeptide does not

CC contain the allergenic epitope QQQP, and shows some minor differences to

CC published sequences. It therefore represents a new allele for LMW subunit

CC genes. The LMW6 polypeptide was modified to produce modified glutenin

CC polypeptides of the invention. In these modified polypeptides one or more

CC cysteine residues responsible for intermolecular cross linking through

CC disulfide bridges are deleted or substituted. The modified glutenin

CC polypeptide is useful as a gliadin substitute. It is also useful in the

CC preparation of foodstuffs, such as flour or for the preparation of

CC pharmaceutical products, such as tablets, where the foodstuffs contain a

CC considerably reduced amount of gliadin proteins or no gliadin proteins.

CC Pharmaceutical compositions comprising the modified polypeptide of the

CC invention are useful for treating patients suffering from coeliac disease

CC or persons who are intolerant to gluten.

XX

XX Sequence 297 AA;

XX

XX Query Match 31.4%; Score 450.5; DB 8; Length 297;

XX Best Local Similarity 41.2%; Pred. No. 1e-30;

XX Matches 120; Conservative % 38; Mismatches 82; Indels 51; Gaps 13;

XX

XX 5 VPOLQPGNQSQGQGEQGVPLVQQGQGFPGQQGQFPFGQGPYPQGPFPFSQGFPLQGP-FPG 63

XX 18 IQQETETIPGISRWQQQPLQGXKTFP---QQPSSG---QQGFFPQGPFLQQGQPSFSQ 71

XX

XX 64 PHLEFPQPSGFPPQPPYPQPPQYQSQGPQPSQQQAQQGQQGQQGQQGQ-----ILQ 116

XX 72 -----QLPFGQKQPVLPQQPAPFSQQGQTVLPQGPAPFSQQGQHQLLQQQPIVHPSTILQ 125

XX

XX 117 QI-----LQQQLIPCMQDVLYQGNINIAHARSQVIGQSTYQLGLSCOMHMQIPQSGCC 170

XX 126 QLNCKXKVFLLQQG---CSPVAMPQH---LARSQMWQSSCNVMQQCCQQLPRIPESQRYE 179

XX

XX 171 AHHVVAHAIILHQQOK-----QQGQPSFSQV-SFGQPLQ--QYPLGQGSF-----RP 213

XX 180 ATRATISIIQLQEQGQGFVQPGQQQPGQSVGGVQPGQGSQQLGQGSFQGPQQQLGQGP 239

XX

XX 214 SQGNPQAGSVQPGQLPQFESIRMLAQTLFAMCNVTIAPCTI--APFGI 262

XX 240 QQQQVQKQTFPLQPHQIRLEVMETSIARTLPTMQSVNVPVLSITSAPLGV 290

XX

XX RESULT 7

XX ID ADR89338

XX ADR89338 standard; protein; 307 AA.

XX

XX ADR89338;

XX

XX 06-MAY-2004 (first entry)

XX

XX T. aestivum LMW glutenin-1D1 protein.

XX

XX double stranded RNA; storage protein; 2S-albumen; 7S-globulin;

XX 11S/12S-globulin; zein-prolamine; homogenisate metabolic pathway;

XX pharmaceutical; plant; abiotic stress; fatty acid composition;

XX lipid composition; oil composition; carboxylate composition; colour;

XX pigmentation; pathogen resistance; fruit ripening delay; aging;

XX male sterility; lignin; fibre; cotton; Vitamin E synthesis; nicotine;

XX caffeine; theophylline; threonine biosynthesis; glutenin.

XX

XX Triticum aestivum.

XX

XX WO2003078629-A1.

XX 25-SEP-2003.  
 XX 17-MAR-2003; 2003WO-EP002735.  
 XX 20-MAR-2002; 2002DE-01012892.  
 XX (BADI ) BASF PLANT SCI GMBH.  
 XX Kock M, Bauer J;  
 XX WPI; 2003-803889/75.  
 XX N-PSDB; ADH89337.  
 XX  
 XX Reducing expression of at least two target genes, useful e.g. for  
 XX producing transgenic plants, using partly double-stranded interfering  
 XX RNA.  
 XX  
 XX Disclosure; SEQ ID NO 113; 228bp; German.  
 XX  
 XX This invention describes a novel method for reducing the expression of at  
 XX least two different endogenous target genes in a eukaryotic cell or  
 XX organism by introducing an RNA molecule that is at least partly double  
 XX stranded. The transcribed RNAs from at least two target genes have  
 XX homology below 90% and the RNA molecule is formed as a single, self-  
 XX complementary molecule. At least one of the double-stranded structures  
 XX formed from individual sense sequences has an even number of repeats of  
 XX 21 or 22 bp. The RNA molecule may include an intron-encoding sequence. At  
 XX least two target genes are selected from different classes of storage  
 XX protein genes, i.e. 2S-albumen, 7S- or 11S/12S-globulins or zein-  
 XX prolamins and at least one of the sense sequences is identical to storage  
 XX protein sequences or genes in the homogenizate metabolic pathway or  
 XX enzyme types, e.g. acetyl transacylases, thioesterases, (de)branching  
 XX enzymes or cellulases. The RNA of the invention, also related cassettes,  
 XX expression systems, vectors and transgenic organisms are used for  
 XX preparation of pharmaceuticals, in biotechnological processes and plant  
 XX biotechnology, specifically in plants to improve protection against  
 XX abiotic stress, to modify composition and/or content of fatty acids,  
 XX lipids and oils, to modify carbohydrate composition, to alter colour or  
 XX pigmentation, to reduce content of storage proteins, to increase  
 XX resistance to pathogens, to inhibit stem break, to delay fruit ripening  
 XX or aging, to induce male sterility, to reduce content of toxic or  
 XX unwanted components, to modify lignification and/or lignin content, to  
 XX modify the fibre component in foods or fibre quality in cotton, to reduce  
 XX susceptibility to shock, to increase synthesis of Vitamin E, to reduce  
 XX contents of nicotine, caffeine or theophylline and to increase methionine  
 XX content, by reducing threonine, biosynthesis. The method provides a rapid  
 XX and efficient way of reducing gene expression, can inhibit more than one  
 XX target gene, prevents development of multiple phenotypes (since the  
 XX transcription rate is the same for all RNA sequences, significantly  
 XX reducing the selection process required to produce an organism with  
 XX effective suppression of all target genes), avoids problems of epigenetic  
 XX gene silencing, does not require synthesis of individual RNA sequences.  
 XX and the method can be applied to plants with complex (polyploid) genomes.  
 XX No interference between the individual RNA sequences occur. This sequence  
 XX represents a protein encoded by a target gene used in the method of the  
 XX invention.  
 XX  
 XX Sequence 307 AA;  
 XX  
 XX Query Match 30.6%; Score 439.5; DB 7; Length 307;  
 XX Best Local Similarity 42.8%; Pred. No. 9, 4e-30;  
 XX Matches 125; Conservative 36; Mismatches 76; Indels 55; Gaps 16;  
 XX  
 XX 13 PSQQGQGVPLVQGGQFP-----GQQGQFPQGPQGPQGPQGPQGPQGPQGP 67  
 XX 27 PGRERWQGPPLPQGPFPQGPPLFSQQQD---QQLPQGPSSQQDP-----PFWQQGP 78  
 XX 68 YPQPGSFPQGP-----YFQPGQYSGPQGPPI---SQQAQGGQGGQGGQGGQGGQ 114  
 XX 79 FSGQQGPILPQGPFPFSQQGQLVLVQ-QPFSQQGQGPLLPQGPSPFPQGGQGHQLVQQGIP 137  
 XX 115 -LQGLLQGLLPGMDVVLQGH-NIAH---ARSQVLQGSTYQLJLQELCCGHLMDIPFS 167

Db 138 WVQPSILQGLNPG-KVFLDQQGSPVAMPQRLRSQMLQSSCHVWQQGQGLPQIPQDS 196  
 QY 168 OCCAHNVVHAITILHQGQKQGGQSSQVSPFQGPLQGYPLQGSFPPSPQGNPQ----- 219  
 Db 197 RVEAIAITVYSILL--QEGQYVQSSIQSGQQGPQ---LGQCVSQPQQGSQQQLGQGPQ 251  
 QY 220 ---AGGS-VQPGQPLPQFEIRNLAIQTLPAMCNVTIAPY--CTIAPFGIGT 265  
 Db 252 QQLAQGTFLQPHQIAQLFVMTSIALRLIFPMCSVNPVPLKRTTSVFFGV-GT 302  
 XX  
 XX RESULT 8  
 XX ADG44134  
 XX ID ADG44134 standard; protein, 307 AA.  
 XX AC ADG44134;  
 XX DT 26-FEB-2004 (first entry)  
 XX XX  
 XX DE T. aestivum glutenin-1D1 protein.  
 XX XX  
 XX oil content; plant; storage protein; seed-specific promoter; 2S-albumin;  
 XX KW 7S-globulin; 11S-globulin; 12S-globulin; zein-prolamins; transgenic;  
 XX KW oil production; fat production; free fatty acid production; food;  
 XX KW animal feed; pharmaceutical; fine chemical production; glutenin.  
 XX XX  
 XX OS Triticum aestivum.  
 XX XX  
 XX PN WO2003077643-A2.  
 XX XX  
 XX PD 25-SEP-2003.  
 XX XX  
 XX PF 17-MAR-2003; 2003WO-EP002733.  
 XX XX  
 XX PR 20-MAR-2002; 2002DE-01012893.  
 XX XX  
 XX PA (BADI ) BASF PLANT SCI GMBH.  
 XX XX  
 XX PI Bauer J;  
 XX XX  
 XX WPI; 2004-011485/01.  
 XX N-PSDB; ADG44133.  
 XX  
 XX Increasing total oil content of plants, useful e.g. as foods or animal  
 XX feeds, by reducing amount of storage proteins, particularly with double-  
 XX stranded interfering RNA.  
 XX  
 XX Claim 4; SEQ ID NO 174; 253bp; German.  
 XX  
 XX This invention describes a novel method for increasing the total oil  
 XX content of a plant by reducing the amount of at least one storage protein  
 XX in the plant (or its tissue, organs, parts or cells) and selecting plants  
 XX that have higher total oil content than starting plants. The storage  
 XX protein is suppressed by introducing antisense RNA, optionally combined  
 XX with a ribozyme, sense RNA that induces co-suppression, DNA-binding  
 XX factors directed against storage protein genes, viral sequences that  
 XX degrade storage protein RNA, constructs that induce homologous  
 XX recombination of endogenous storage protein genes or mutations into  
 XX storage protein genes. Most preferably a plant cell is stably transfected  
 XX with a recombinant expression construct, then regenerated to plants that  
 XX express the incorporated sequence. The expression constructs particularly  
 XX contain a seed-specific promoter and they are introduced into plants by  
 XX standard methods, e.g. via Agrobacterium. The preferred storage proteins  
 XX of the invention are 2S-albumens, 7S or 11S/12S-globulins or zein-  
 XX prolamins. Transgenic organisms produced by the new method are used for  
 XX production of oils, fats, free fatty acids or their derivatives, useful  
 XX as foods, animal feeds, pharmaceuticals and fine chemicals. This sequence  
 XX represents a storage protein used to illustrate the method of the  
 XX invention.  
 XX  
 XX Sequence 307 AA;  
 XX



DR N-PSDB; ABL15798.  
 XX New isolated nucleic acid detection reagent for detecting 1000 or more  
 PT genes from Drosophila and for elucidating cell signaling and cell-cell  
 PT interactions.  
 XX  
 PS Disclosure; SEQ ID NO 41877; 21bp + Sequence Listing; English.  
 XX  
 CC The invention relates to an isolated nucleic acid detection reagent  
 CC capable of detecting 1000 or more genes from Drosophila. The invention is  
 CC useful in developmental biology and in elucidating cell signaling and  
 CC cell-cell interactions in higher eukaryotes for the development of  
 CC insecticides, therapeutics and pharmaceutical drugs. The invention  
 CC discloses genomic DNA sequences (AB16176-AB130511), expressed DNA  
 CC sequences (AB101840-AB16175) and the encoded proteins (AB57737-  
 CC AB572072). The sequence data for this patent did not form part of the  
 CC printed specification, but was obtained in electronic format directly  
 CC from WIPO at ftp.wipo.int/pub/published\_pct\_sequences  
 XX  
 SQ Sequence 1798 AA;

Query Match 20.3%; Score 290.5; DB 4; Length 1798;  
 Best Local Similarity 37.5%; Pred. No. 5.5e-16;  
 Matches 100; Conservative 18; Mismatches 94; Indels 55; Gaps 12;

QY 3 VPVPLQPCNP-SQQQPCQVPLVQ-----QQQPCQCCQPPPPQ 41  
 DB 264 VPGATQPCQSFSSQKPIPTDPVAVASRSALSSNODSLMRQQLKXCCQMQCCQ 323  
 QY 42 PYPQPCPP-SQQPPLQLPFP-CPHLPYPC-PQSFPPQPPYPCQPCQPSQPPISQ 97  
 DB 324 MAPCQCCQCCQPCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 382  
 QY 98 QACCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 153  
 DB 383 QCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 440  
 QY 154 ELCCGHLWPCQSCQAIHNVVHAIILHQQCKCCQCCQCCQCCQCCQCCQCCQCCQ 213  
 DB 441 -----ALCKCCQ-----LHVCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 481  
 QY 214 SQQNPQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 240  
 DB 482 QCHQVCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 504

RESULT 11  
 ABB63057  
 ID ABB63057 standard; protein, 2285 AA.

XX ABB63057;  
 AC  
 XX  
 DT 26-MAR-2002 (first entry)  
 DE Drosophila melanogaster polypeptide SEQ ID NO 15963.  
 XX Drosophila; developmental biology; cell signalling; insecticide;  
 KW pharmaceutical.  
 XX  
 OS Drosophila melanogaster.  
 XX  
 PN WO200171042-A2.  
 XX  
 PD 27-SEP-2001.  
 XX  
 PF 23-MAR-2001; 2001WO-US009231.  
 XX  
 PR 23-MAR-2000; 2000US-0191637P.  
 XX 11-JUL-2000; 2000US-00614150.  
 XX  
 PA (PEKE) PE CORP NY.  
 XX  
 PI Venter JC, Adams M, Li PWD, Myers EW;

XX WPI: 2001-656860/75.  
 DR N-PSDB; AB107160.  
 XX  
 XX New isolated nucleic acid detection reagent for detecting 1000 or more  
 PT genes from Drosophila and for elucidating cell signaling and cell-cell  
 PT interactions.  
 XX  
 PS Disclosure; SEQ ID NO 15963; 21bp + Sequence Listing; English.  
 XX  
 CC The invention relates to an isolated nucleic acid detection reagent  
 CC capable of detecting 1000 or more genes from Drosophila. The invention is  
 CC useful in developmental biology and in elucidating cell signaling and  
 CC cell-cell interactions in higher eukaryotes for the development of  
 CC insecticides, therapeutics and pharmaceutical drugs. The invention  
 CC discloses genomic DNA sequences (AB16176-AB130511), expressed DNA  
 CC sequences (AB101840-AB16175) and the encoded proteins (AB57737-  
 CC AB572072). The sequence data for this patent did not form part of the  
 CC printed specification, but was obtained in electronic format directly  
 CC from WIPO at ftp.wipo.int/pub/published\_pct\_sequences  
 XX  
 SQ Sequence 2285 AA;

Query Match 18.9%; Score 271; DB 4; Length 2285;  
 Best Local Similarity 35.7%; Pred. No. 3.5e-14;  
 Matches 101; Conservative 14; Mismatches 104; Indels 64; Gaps 13;

QY 7 QLCPCNP-----SQQPCQCCQVPLVQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 54  
 DB 909 QMCCQCCQVAVAPVNNHVMQCCQVN--QQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 966  
 QY 55 YLQPCFPQ-----PMLPYPQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 99  
 DB 967 QCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 1024  
 QY 100 QCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 153  
 DB 1025 QCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 1084  
 QY 154 ELCCGHLWPCQSCQAIHNVVHAIILHQQCKCCQCCQCCQCCQCCQCCQCCQCCQ 204  
 DB 1085 QCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 1141  
 QY 205 PL-----GGSFPPSQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 232  
 DB 1142 PPTSVAPPIQHTYNNQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQCCQ 1184

RESULT 12  
 AAY96255  
 ID AAY96255 standard; protein, 1162 AA.

XX AAY96255;  
 AC  
 XX  
 DT 12-SEP-2003 (revised)  
 DE 11-SEP-2000 (first entry)  
 XX  
 DE Kaposi's sarcoma-associated herpesvirus LANA.  
 XX  
 KW Kaposi's sarcoma-associated herpesvirus; KSHV; rhadino virus;  
 KW latency-associated nuclear antigen; LANA; gamma-2 herpes virus;  
 KW Human herpes virus 8; HHV8; rhadino virus cis-acting element; RVCAE;  
 KW Kaposi's sarcoma; primary effusion lymphoma; PEL;  
 KW human immunodeficiency virus; HIV; multicentric Castleman's disease.  
 XX  
 OS Human herpesvirus 8.  
 XX  
 FH Key  
 FT 14.17 Location/Qualifiers  
 FT Domain /note="nuclear localisation signal, NLS"  
 FT 64..70  
 FT Domain /note="nuclear localisation signal, NLS"  
 FT 320..429  
 FT Region

FT    Region    /note="acidic repeat region"  
 FT          430..549  
 FT          /note="Gln, Glu, Pro-rich region"  
 FT    Region    550..589  
 FT          /note="Gln, Glu, Pro, Arg-rich region"  
 FT    Region    590..759  
 FT          /note="Gln, Glu, Asp-rich region"  
 FT    Region    760..840  
 FT          /note="Gln, Glu-rich region"  
 XX          WO200029626-A1.  
 XX          25-MAY-2000.  
 XX          19-NOV-1999;    99WO-US027508.  
 XX          19-NOV-1998;    98US-00109422.  
 XX          21-APR-1999;    99US-00298568.  
 XX          (KIEF/) KIEF E. D.  
 XX          (BALL/) BALLESTAS M. E.  
 XX          (KAYE/) KAYE K. M.  
 XX          Kieff ED, Ballestas ME, Kaye KM;  
 XX          WPI; 2000-387829/33.  
 XX          N-PSDB; AAA30290.  
 XX          Treating or preventing a disease associated with rhodino virus infection  
 XX          in a mammal which includes Kaposi's Sarcoma and Primary Effusion  
 XX          Lymphoma.  
 XX          Disclosure; Fig 7; 70pp; English.  
 XX          The present sequence is the Kaposi's sarcoma-associated herpesvirus,  
 XX          (KSHV) latency-associated nuclear antigen (LANA). KSHV is also known as  
 XX          Human Herpes Virus 8 (HHV8) and belongs to the rhadino virus or gamma-2  
 XX          herpes virus class. The LANA protein is necessary for the efficient  
 XX          persistence of rhadino virus DNA in mammalian cells. Persistent rhadino  
 XX          virus infection is implicated in a variety of diseases e.g. Kaposi's  
 XX          Sarcoma (KS), Primary Effusion Lymphoma (PEL) and multicentric  
 XX          Castleman's disease. In addition, KS is a common malignancy in HIV  
 XX          patients. KSHV persists in host cells in a latent form. One of the few  
 XX          genes expressed from the latent viral DNA is LANA. LANA associates with  
 XX          both human chromosomes and with the rhadino virus cis-acting element  
 XX          (RVCA), thereby providing a tethering function: the KSHV DNA episome is  
 XX          "tied" to the host chromosomes. This allows the viral DNA to persist in  
 XX          the host cell. The present sequence may be used to screen and identify  
 XX          molecules that inhibit LANA interaction with RVCA, thereby interfering  
 XX          with the latency cycle of this virus. Potential antiviral treatments for  
 XX          the above mentioned diseases may therefore be based on LANA deregulation.  
 XX          (Updated on 12-SEP-2003 to standardise OS field)  
 XX          Sequence 1162 AA;  
 XX          Query Match    18.7%; Score 268; DB 3; Length 1162;  
 XX          Best Local Similarity 38.0%; Pred. No. 2,9e-14;  
 XX          Matches 93; Conservative 19; Mismatches 101; Indels 32; Gaps 10;

DB    EQQD-----EQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQD 716  
 QY    230 POFEE 234  
 DB    717 EQQD 721  
 RESULT 13  
 ID    AAY58500  
 XX    AAY58500 standard; protein; 1162 AA.  
 XX    AAY58500;  
 AC    AAY58500;  
 DT    06-AUG-2003 (revised)  
 DT    10-APR-2000 (first entry)  
 XX          HHV8 ORF 73 protein, SEQ ID NO:21.  
 XX          HHV8; detection; diagnosis; Kaposi's sarcoma; AIDS; immunogen; antigen.  
 XX          Human herpesvirus 8.  
 XX          Key    Location/Qualifiers  
 XX          FT    Misc-difference 96  
 XX          FT          /label= unknown  
 XX          PN    WO961909-A2.  
 XX          PD    02-DEC-1999.  
 XX          PE    26-MAY-1999;    99WO-US011407.  
 XX          PR    26-MAY-1998;    98US-0086695P.  
 XX          PA    (USSH ) US DEPT HEALTH & HUMAN SERVICES.  
 XX          PI    Pau C;  
 XX          DR    WPI; 2000-097142/08.  
 XX          New methods and compositions for the detection of human herpesvirus.  
 XX          Claim 2; Page 59-62; 68pp; English.  
 XX          Sequences AAY58480-Y58532 represent immunogenic polypeptides derived from  
 XX          human herpes virus type 8 (HHV8, a gammaherpesvirus). HHV8 plays an  
 XX          important role in the pathogenesis of AIDS-related Kaposi's sarcoma. The  
 XX          invention relates to a novel method of detecting the presence of human  
 XX          herpesvirus 8 in a biological sample using peptides representative of  
 XX          dominant antigenic regions of HHV8. The method comprises contacting one  
 XX          or more isolated, immunogenic HHV8 peptides with an antibody-containing  
 XX          biological sample, and detecting the formation of a complex between the  
 XX          peptide and the antibody. The presence of a peptide-antibody complex  
 XX          indicates the presence of human herpesvirus 8. The detection of HHV8  
 XX          infection can be used to diagnose AIDS-associated Kaposi's sarcoma. The  
 XX          HHV8-specific antibodies are useful therapeutically when for the passive  
 XX          immunisation of a human against HHV8 infection, thereby reducing HHV8  
 XX          related disease. The detection assays are highly specific, sensitive and  
 XX          accurate. Early detection and treatment of Kaposi's sarcoma could  
 XX          diminish the severity of symptoms related to AIDS and the sensitive  
 XX          techniques could reduce erroneous characterisations of skin disorders.  
 XX          Preclinical assays for HHV8 antibodies such as immunofluorescence assays,  
 XX          immunoblots and enzyme immunoassays lack the sensitivity and accuracy  
 XX          needed for reliable diagnosis of Kaposi's sarcoma. Further advantages of  
 XX          the assays are that reproducible results are obtained and the method is  
 XX          suitable for rapid throughput and screening of samples economically.  
 XX          (Updated on 06-AUG-2003 to correct OS field.)  
 XX          Sequence 1162 AA;  
 XX          Query Match    18.7%; Score 268; DB 3; Length 1162;  
 XX          Best Local Similarity 38.0%; Pred. No. 2,9e-14;  
 XX          Matches 93; Conservative 19; Mismatches 101; Indels 32; Gaps 10;

QY 4 EVPOLQPONPSQQQPEQVPLVQ--QQQPFQQQ--QQFPQQPYPQPFPSPQQPYLQ 59  
 Db 495 PLOEPQQQPEQQQPEQQQPEQQQPEQQQPEQQQPEQQQPEQQQPEQQQPEQQQPEQQQ 553  
 QY 60 P---FPQPHLPY---PQ---PQSFPQQPYPQP-QPQYSQPQPISSQQAQQQQQQQQQQ 109  
 Db 554 PQQREPQQREPQQREPQQREPQQREPQQREPQQREPQQREPQQREPQQREPQQREPQQ 613  
 QY 110 QQQQILQQILQQQILPCMDVVLQGHNIHARSQVLAQSTYQLLELCCGHLWQIPESQSC 169  
 Db 614 EQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQ 663  
 QY 170 QAIHNVHAIIILHQQKQQQPSQSVSFQCPLOQYPLGGGSRFPQQNPPAQGSVQPOQL 229  
 Db 664 EQQQD-----EQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQD 716  
 QY 230 PQFEE 234  
 Db 717 EQQQD 721

## RESULT 14

AA62331  
 ID AAB62331 standard, protein, 1162 AA.

AC AAB62331;

DT 06-AUG-2003 (revised)  
 DT 29-JUN-2001 (first entry)

DE Amino acid sequence of KSHV tethering protein LANA.

KM Histone H1; tethering protein; LANA; gene therapy; multiple sclerosis;  
 KM Parkinson's disease; Huntington disease; diabetes; human herpesvirus 8;  
 KM KSHV; latency-associated nuclear antigen; LANA.

OS Human herpesvirus 8.

PN WO200125484-A2.

PD 12-APR-2001.

PF 29-SEP-2000; 2000WO-US026908.

PR 01-OCT-1999; 99US-00410399.

PA (UNMI) UNIV MICHIGAN.

PI Robertson ES, Cotter MA;

XX WPI; 2001-281736/29.

DR N-PSDB; AAF82301.

PT A composition for use in gene therapy comprises an expression vector that  
 PT includes a nucleic acid sequence encoding a nucleic acid binding protein.

XX Disclosure; Fig 9B; 60pp; English.

CC The invention provides a composition comprising nucleic acid, histone H1  
 CC protein and expression vector operationally encoding a protein suitable  
 CC for tethering the nucleic acid to the histone H1 protein, where the  
 CC tethering protein is LANA. The composition is useful in aiding the  
 CC retention of the viral DNA in the host cell. The viral vector encodes a  
 CC protein suitable for tethering DNA to histone H1. Methods for screening of  
 CC for compounds which are agonistic or antagonistic for the tethering of  
 CC viral proteins to histone H1 and DNA binding sites are useful for  
 CC developing the method of viral transfer. The composition has applications  
 CC to gene therapy, including the treatment of multiple sclerosis  
 CC Parkinson's disease, Huntington disease and diabetes. The present  
 CC sequence represents the amino acid sequence of the Kapost's sarcoma  
 CC associated herpesvirus (human herpesvirus 8) latency-associated nuclear  
 CC antigen (LANA), which acts as a tethering protein. (Updated on 06-AUG-

CC 2003 to correct OS field.)

XX Sequence 1162 AA;

SQ Query Match 18.7%; Score 268; DB 4; Length 1162;

Best Local Similarity 38.0%; Pred. No. 2.9e-14;

Matches 93; Conservative 19; Mismatches 101; Indels 32; Gaps 10;

QY 4 EVPOLQPONPSQQQPEQVPLVQ--QQQPFQQQ--QQFPQQPYPQPFPSPQQPYLQ 59  
 Db 495 PLOEPQQQPEQQQPEQQQPEQQQPEQQQPEQQQPEQQQPEQQQPEQQQPEQQQPEQQQ 553  
 QY 60 P---FPQPHLPY---PQ---PQSFPQQPYPQP-QPQYSQPQPISSQQAQQQQQQQQQQ 109  
 Db 554 PQQREPQQREPQQREPQQREPQQREPQQREPQQREPQQREPQQREPQQREPQQREPQQ 613  
 QY 110 QQQQILQQILQQQILPCMDVVLQGHNIHARSQVLAQSTYQLLELCCGHLWQIPESQSC 169  
 Db 614 EQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQ 663  
 QY 170 QAIHNVHAIIILHQQKQQQPSQSVSFQCPLOQYPLGGGSRFPQQNPPAQGSVQPOQL 229  
 Db 664 EQQQD-----EQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQD 716  
 QY 230 PQFEE 234  
 Db 717 EQQQD 721

## RESULT 15

AB05621  
 ID ABB05621 standard, protein, 1162 AA.

AC ABB05621;

DT 25-APR-2002 (first entry)

DE Kapost's sarcoma-associated herpesvirus LANA protein.

XX Kapost's sarcoma-associated herpesvirus; KSHV; LANA; RVCAE; PEL;  
 KM KSHV terminal repeat; rhadino virus cis acting element; episome;  
 KM primary effusion lymphoma; latency-associated nuclear antigen;  
 KM gene therapy; gene transfer.

OS Human herpesvirus 8.

PN US6322792-B1.

PD 27-NOV-2001.

PF 21-APR-1999; 99US-00298568.

PR 19-NOV-1998; 98US-0109422P.

PA (KIEF/) KIEFF E D.

PI Kieff ED, Ballestas ME, Kaye KM;

XX WPI; 2002-153769/20.

DR N-PSDB; ABA93487.

PT System for episomal retention of plasmids in mammalian cells, useful in  
 PT gene therapy, comprises rhadinoviral LANA and RVCAE sequences.

XX Disclosure; Fig 7; 27pp; English.

CC The present invention describes a system (A) for maintaining a plasmid as  
 CC an episome in mammalian cells, comprising the rhadinoviral sequence LANA  
 CC (latency-associated nuclear antigen) of 3489 base pairs (see ABA93487,  
 CC S1) expressed in the cell, and the rhadinoviral sequence RVCAE  
 CC (rhadinoviral cis-acting element) of 801 base pairs (see ABA93488, S2)  
 CC present in the plasmid. Also described is a method for maintaining a  
 CC cloned circular DNA in a cell by expressing (S1) in the cells and having

GC (s2) as a cis-acting and maintenance sequence in the DNA. (A) is  
 GC particularly used in gene therapy (or other gene transfer applications)  
 GC that uses mammalian cells in which LANA is expressed. (A) improves  
 GC persistence of gene therapy vectors in cells. The present sequence  
 GC represents Kaposi's sarcoma-associated herpesvirus (KSHV, also called  
 GC human herpesvirus 8) LANA protein, which is used in the exemplification  
 GC of the present invention

XX Sequence 1162 AA;

Query Match 18.7%; Score 268; DB 5; Length 1162;

Best Local Similarity 38.0%; Pred. No. 2.9e-14;

Matches 93; Conservative 19; Mismatches 101; Indels 32; Gaps 10;

4 PVPOLPQNPNSQQQPPQEQVPLVQ--QQQFPQQQ--QQFPQPPQPPPSQPPYLQIQ 59  
 DB PLOFPQQQBPQQQBPQQQBPQQQBPQQQBPQQQBPQQQBPQQQBPQQQBPQQQBP 553  
 QY P--FPQPHLPY--PQ--PQSFPPQQPPYPPQ--QPVSOPQQPISQQQAQQQQQQQQQQ 109  
 DB PQQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQRE 613  
 QY QQQQILQQILQQILPCMDVVLQHNIAHARSQVLSQSTYQLQLCCQHLWQIPQSQC 169  
 DB EQQDEQQQDEQQ--QDEQQDEQQQDEQQQDEQQQDEQQQDE--QDQDEQQQD 663  
 QY QATHNVVHATILHQQQQKQQQPPSSQVSPQQPLQQYPLGGSPRPSQQNPFQAQSVQPPQL 229  
 DB EQQD-----EQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQD 716  
 QY 230 POFEE 234  
 DB 717 EQQD 721

Search completed: December 14, 2004, 17:17:24  
 Job time : 80.6667 secs



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## OM protein - protein search, using sw model

Run on: December 14, 2004, 17:06:20 ; Search time 19 seconds

(without alignments)  
928.452 Million cell updates/sec

Title: US-10-089-700-3-H65

Perfect score: 1434

Sequence: 1 VRVVPQIQPNPSCQCPQE.....CNVYIAPYCTIAPGIRGTM 266

## Scoring table:

BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 478139 seqs, 66318000 residues

Total number of hits satisfying chosen parameters: 478139

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

## Database :

1: /cgn2\_6/ptodata/1/1aa/5A.COMB.pep:\*  
2: /cgn2\_6/ptodata/1/1aa/5B.COMB.pep:\*  
3: /cgn2\_6/ptodata/1/1aa/6A.COMB.pep:\*  
4: /cgn2\_6/ptodata/1/1aa/6B.COMB.pep:\*  
5: /cgn2\_6/ptodata/1/1aa/PTCUS.COMB.pep:\*  
6: /cgn2\_6/ptodata/1/1aa/backfiles1.pep:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	463	32.3	369	2	US-08-991-300-2
2	268	18.7	1162	2	US-08-728-323A-2
3	268	18.7	1162	3	US-09-298-568-2
4	268	18.7	1162	4	US-09-410-399-2
5	268	18.7	1162	4	US-09-894-273-2
6	248	17.3	788	2	US-08-918-914-4
7	235.5	16.4	256	4	US-09-248-796A-1251
8	234	16.3	498	4	US-09-270-767-45042
9	224	15.6	579	4	US-09-668-119-3
10	216	15.1	2074	4	US-09-491-356C-9
11	201	14.0	2023	4	US-09-491-356C-8
12	201	14.0	2124	4	US-09-538-092-1377
13	198.5	13.8	505	4	US-09-248-796A-19253
14	197.5	13.8	663	4	US-09-270-767-61220
15	197.5	13.8	1591	4	US-09-270-767-45698
16	197.5	13.8	2441	1	US-08-194-468-2
17	197.5	13.8	2441	3	US-08-961-739-2
18	197.5	13.8	2441	3	US-09-514-247A-8
19	197.5	13.8	2441	4	US-09-686-316-2
20	196.5	13.7	379	4	US-09-248-796A-23759
21	196.5	13.7	729	3	US-09-625-188-20
22	196.5	13.7	2442	4	US-09-514-247A-10
23	196.5	13.7	2442	4	US-09-538-092-1370
24	196	13.7	216	4	US-09-248-796A-21017
25	187	13.0	295	4	US-09-248-796A-20004
26	186.5	13.0	169	4	US-09-248-796A-28087
27	186.5	13.0	320	4	US-09-248-796A-24758

28	184.5	12.9	316	4	US-09-270-767-42663	Sequence 42663, A
29	184.5	12.9	332	4	US-09-248-796A-21649	Sequence 21649, A
30	183	12.8	261	4	US-09-602-565-34	Sequence 34, Appl
31	183	12.8	519	4	US-09-248-796A-19263	Sequence 19263, A
32	179	12.5	408	4	US-09-248-796A-14480	Sequence 14480, A
33	178	12.4	383	4	US-09-248-796A-23235	Sequence 23235, A
34	178	12.4	657	4	US-09-248-796A-19232	Sequence 19232, A
35	178	12.4	1319	4	US-09-538-092-1291	Sequence 1291, Ap
36	176.5	12.3	107	4	US-09-668-119-6	Sequence 6, Appl
37	176.5	12.3	684	4	US-09-823-240A-9	Sequence 9, Appl
38	176	12.3	618	4	US-09-248-796A-15319	Sequence 15319, A
39	176	12.3	848	4	US-09-538-092-33	Sequence 33, Appl
40	176	12.3	1507	4	US-09-814-259-37	Sequence 37, Appl
41	174.5	12.2	382	4	US-09-248-796A-18720	Sequence 18720, A
42	173.5	12.1	2781	4	US-09-698-295-10	Sequence 10, Appl
43	171.5	12.0	903	2	US-08-853-310-2	Sequence 2, Appl
44	171	11.9	675	4	US-09-248-796A-20699	Sequence 20699, A
45	170.5	11.9	311	4	US-09-248-796A-27827	Sequence 27827, A

## ALIGNMENTS

RESULT 1  
US-08-991-300-2  
Sequence 2, Application US/08991300  
Patent No. 5973225  
GENERAL INFORMATION:  
APPLICANT: D'OVIDIO, RENATO  
APPLICANT: PORCEDDU, ENRICO  
APPLICANT: MERCHETTI, CINZIA  
APPLICANT: CARDELLI, LUISA ERCOLI  
TITLE OF INVENTION: ISOLATION AND CHARACTERIZATION OF A GENE  
TITLE OF INVENTION: ENCODING A LOW MOLECULAR WEIGHT GLUTENIN  
NUMBER OF SEQUENCES: 6  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,  
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY  
CITY: ARLINGTON  
STATE: VA  
COUNTRY: USA  
ZIP: 22202  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent In Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/991,300  
FILING DATE: 16-DEC-1997  
CLASSIFICATION: 800  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: IT MI 96/A 002663  
FILING DATE: 19-DEC-1996  
ATTORNEY/AGENT INFORMATION:  
NAME: OBLON, NORMAN F.  
REGISTRATION NUMBER: 24,618  
REFERENCE/DOCKET NUMBER: 2264-0201-0X  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 703-413-3000  
TELEFAX: 703-413-2220  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 369 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-991-300-2  
Query Match 32.3%; Score 463; DB 2; Length 369;  
Best Local Similarity 40.2%; Pred. No. 8,1e-35;



US-09-410-399-2  
; Sequence 2, Application US/09410399  
; Patent No. 6482587  
; GENERAL INFORMATION:  
; APPLICANT: Robertson, Eyle S.  
; APPLICANT: Coffey, Murray A.  
; TITLE OF INVENTION: Methods to Inhibit or Enhance the Binding of Viral DNA  
; FILE REFERENCE: UM-03778  
; CURRENT APPLICATION NUMBER: US/09/410,399  
; CURRENT FILING DATE: 1999-10-01  
; NUMBER OF SEQ ID NOS: 6  
; SOFTWARE: Patentin Ver. 2.0  
; SEQ ID NO 2  
; LENGTH: 1162  
; TYPE: PRT  
; ORGANISM: Kaposi's sarcoma-associated herpesvirus  
US-09-410-399-2

Query Match 18.7%; Score 268; DB 4; Length 1162;  
Best Local Similarity 38.0%; Pred. No. 2.8e-16;  
Matches 93; Conservative 19; Mismatches 101; Indels 32; Gaps 10;

QY 4 PVPOLQPNPQQQPPQDEQVPLVQ--QQQPPGQQ--QQPFPQPPYPPQPPFPSPQPPYQLQ 59  
DB 495 PLOEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEP 553  
QY 60 P---FPQPHLPY---PQ---PQSFPQPPYPP--QPQISQPPQPPISQQQAQQQQQQQQQQ 109  
DB 554 PQQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQRE 613  
QY 110 QQQQILQQQLPCMDVVLQGNHIAASQVLCQSTYQLLQELCCQHLMQIPESQSC 169  
DB 614 EQQDEQQQDEQQ---QDEQQQDEQQQDEQQQDEQQQDEQQQDE---QQQDEQQQD 663  
QY 170 QAINHVHAILHQQQKQQQSSQSVSFQQPLQQYPLGGGFRPQQNPQAQGSVQPQQL 229  
DB 664 EQQQD-----EQQDDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQD 716  
QY 230 PQEE 234  
DB 717 EQQQD 721

RESULT 5  
US-09-894-273-2  
; Sequence 2, Application US/09894273  
; Patent No. 6756203  
; GENERAL INFORMATION:  
; APPLICANT: Kleff, Elliott D.  
; APPLICANT: Bailestas, Mary E.  
; TITLE OF INVENTION: RHADINO VIRUS LANA ACTS IN TRANS ON A UNIT OF RHADINO  
; FILE REFERENCE: 16412-10001R  
; CURRENT APPLICATION NUMBER: US/09/894,273  
; CURRENT FILING DATE: 2001-06-28  
; PRIOR APPLICATION NUMBER: US 60/109,422  
; NUMBER OF SEQ ID NOS: 3  
; SOFTWARE: Patentin Ver. 2.0  
; SEQ ID NO 2  
; LENGTH: 1162  
; TYPE: PRT  
; ORGANISM: Kaposi's sarcoma-associated herpesvirus  
US-09-894-273-2

Query Match 18.7%; Score 268; DB 4; Length 1162;  
Best Local Similarity 38.0%; Pred. No. 2.8e-16;  
Matches 93; Conservative 19; Mismatches 101; Indels 32; Gaps 10;

QY 4 PVPOLQPNPQQQPPQDEQVPLVQ--QQQPPGQQ--QQPFPQPPYPPQPPFPSPQPPYQLQ 59  
DB 495 PLOEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEP 553  
QY 60 P---FPQPHLPY---PQ---PQSFPQPPYPP--QPQISQPPQPPISQQQAQQQQQQQQQQ 109  
DB 554 PQQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQRE 613  
QY 110 QQQQILQQQLPCMDVVLQGNHIAASQVLCQSTYQLLQELCCQHLMQIPESQSC 169  
DB 614 EQQDEQQQDEQQ---QDEQQQDEQQQDEQQQDEQQQDEQQQDE---QQQDEQQQD 663  
QY 170 QAINHVHAILHQQQKQQQSSQSVSFQQPLQQYPLGGGFRPQQNPQAQGSVQPQQL 229  
DB 664 EQQQD-----EQQDDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQD 716  
QY 230 PQEE 234  
DB 717 EQQQD 721

DB 495 PLOEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEPQQQEP 553  
QY 60 P---FPQPHLPY---PQ---PQSFPQPPYPP--QPQISQPPQPPISQQQAQQQQQQQQQQ 109  
DB 554 PQQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQRE 613  
QY 110 QQQQILQQQLPCMDVVLQGNHIAASQVLCQSTYQLLQELCCQHLMQIPESQSC 169  
DB 614 EQQDEQQQDEQQ---QDEQQQDEQQQDEQQQDEQQQDEQQQDE---QQQDEQQQD 663  
QY 170 QAINHVHAILHQQQKQQQSSQSVSFQQPLQQYPLGGGFRPQQNPQAQGSVQPQQL 229  
DB 664 EQQQD-----EQQDDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQD 716  
QY 230 PQEE 234  
DB 717 EQQQD 721

RESULT 6  
US-08-918-914-4  
; Sequence 4, Application US/08918914  
; Patent No. 5878963  
; GENERAL INFORMATION:  
; APPLICANT: Mitchell, Peter  
; APPLICANT: Hutchinson, Nancy  
; APPLICANT: Lawton, Michael  
; APPLICANT: Yocum, Holly  
; APPLICANT: Murty, Lynn E.  
; TITLE OF INVENTION: HUMAN NUCLEOTIDE PYROPHOSPHORYLASE  
; NUMBER OF SEQUENCES: 4  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Incyte Pharmaceuticals, Inc.  
; STREET: 3174 Porter Dr.  
; CITY: Palo Alto  
; STATE: CA  
; COUNTRY: USA  
; ZIP: 94304  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette  
; OPERATING SYSTEM: IBM Compatible  
; SOFTWARE: FASTSEQ for Windows Version 2.0  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/918,914  
; FILING DATE: Filed Herewith  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER:  
; FILING DATE:  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Billings, Lucy J.  
; REGISTRATION NUMBER: 36,749  
; REFERENCE/DOCKET NUMBER: PF-0369  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 415-855-0555  
; TELEFAX: 415-845-4166  
; TELEX:  
; INFORMATION FOR SEQ ID NO: 4:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 788 amino acids  
; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; IMMEDIATE SOURCE:  
; LIBRARY: Genbank  
; CLONE: 1070094  
US-08-918-914-4

Query Match 17.3%; Score 248; DB 2; Length 788;  
Best Local Similarity 31.0%; Pred. No. 1.2e-14;  
Matches 89; Conservative 23; Mismatches 97; Indels 78; Gaps 10;

QY 2 RVNPPQLQ-----PQNSGQDPQEGVPLVQQQPFQGGQQQPFPPQDPYPPQPFPSQDPY 55  
 DB 201 RVNPPQLQ-----PQNSGQDPQEGVPLVQQQPFQGGQQQPFPPQDPYPPQPFPSQDPY 252  
 QY 56 LQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 115  
 DB 253 QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 311  
 QY 116 QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 175  
 DB 312 QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 342  
 QY 176 VHHLLHQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 212  
 DB 343 -----PQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 396  
 QY 213 PQQQPPQAGSVQPPQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 259  
 DB 397 PVPQAPQGE---RTPPPVLAIVNTATQ---PPLPQPPYPPRYPAP 438

## RESULT 7

US-09-248-796A-21251  
 Sequence 21251, Application US/09248796A  
 Patent No. 6747137  
 GENERAL INFORMATION:

APPLICANT: Keith Weinstein et al  
 TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICANS  
 FILE REFERENCE: 107196.132  
 CURRENT APPLICATION NUMBER: US/09/248,796A  
 CURRENT FILING DATE: 1999-02-12  
 PRIOR APPLICATION NUMBER: US 60/074,725  
 PRIOR FILING DATE: 1998-02-13  
 PRIOR APPLICATION NUMBER: US 60/096,409  
 PRIOR FILING DATE: 1998-08-13  
 NUMBER OF SEQ ID NOS: 28208  
 SEQ ID NO 21251

LENGTH: 256  
 TYPE: PRT  
 ORGANISM: Candida albicans  
 FEATURE:  
 NAME/KEY: UNSURE  
 LOCATION: (250)  
 OTHER INFORMATION: Identity of amino acid sequences at the above locations are unkno  
 US-09-248-796A-21251

Query Match 16.4%; Score 235.5; DB 4; Length 256;  
 Best Local Similarity 38.1%; Pred. No. 4.4e-14;  
 Matches 74; Conservative 9; Mismatches 68; Indels 43; Gaps 8;

QY 38 PQQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 97  
 DB 75 PQQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 126  
 QY 98 QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 157  
 DB 127 QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 164  
 QY 158 QHLLQIPBQSCCAIHNVVVAIILHQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 217  
 DB 165 QHVKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQK 212  
 QY 218 PQAQGSVQPPQLPQ 231  
 DB 213 -QLVGRSQPSFPQ 225

## RESULT 8

US-09-270-767-45042  
 Sequence 45042, Application US/09270767  
 Patent No. 6703491  
 GENERAL INFORMATION:

APPLICANT: Homburger et al.  
 TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster  
 FILE REFERENCE: File Reference: 7326-094  
 CURRENT APPLICATION NUMBER: US/09/270,767  
 CURRENT FILING DATE: 1999-03-17  
 NUMBER OF SEQ ID NOS: 62517  
 SOFTWARE: PatentIn Ver. 2.0  
 SEQ ID NO 45042  
 LENGTH: 498  
 TYPE: PRT  
 ORGANISM: Drosophila melanogaster  
 FEATURE:  
 OTHER INFORMATION: Xaa means any amino acid  
 US-09-270-767-45042

Query Match 16.3%; Score 234; DB 4; Length 498;  
 Best Local Similarity 32.1%; Pred. No. 1.4e-13;  
 Matches 99; Conservative 20; Mismatches 101; Indels 88; Gaps 15;

QY 6 PQLPPQNP-SQQQPPQEGVPLVQQQPFQGGQQQPFPPQDPYPPQPFPSQDPYLO----- 57  
 DB 181 PQLPPQNP-SQQQPPQEGVPLVQQQPFQGGQQQPFPPQDPYPPQPFPSQDPYLO----- 235  
 QY 58 ---LQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 105  
 DB 236 MQLRQPPQDPQLAPNTS---PQQ---QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 291  
 QY 106 QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 151  
 DB 292 QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 348  
 QY 152 LQELCCQHMQIPBQSCCAIHNVVVAIILHQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 208  
 DB 349 LVETQHQHV---QKQ---HQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 386  
 QY 209 GSFPPSQQNPQA-----QGSVQPPQLPQFEIRNLAL---QTLPMKCNVIAFYCTI 257  
 DB 387 HTMPPTGSPVYVTSPLVLRPPQPPQPPVQVQQQQTQGLAPKREVSAPSS-----NTT 440  
 QY 258 APFGIFGT 265  
 DB 441 TPTGIAS 448

## RESULT 9

US-09-668-119-3  
 Sequence 3, Application US/09668119  
 Patent No. 6768303  
 GENERAL INFORMATION:

APPLICANT: Solomon, William B  
 TITLE OF INVENTION: Transcriptional adaptor protein  
 FILE REFERENCE: 011,0250  
 CURRENT APPLICATION NUMBER: US/09/668,119  
 CURRENT FILING DATE: 2000-09-22  
 NUMBER OF SEQ ID NOS: 8  
 SOFTWARE: PatentIn Ver. 2.1  
 SEQ ID NO 3

LENGTH: 579  
 TYPE: PRT  
 ORGANISM: Homo sapiens  
 US-09-668-119-3

Query Match 15.6%; Score 224; DB 4; Length 579;  
 Best Local Similarity 34.8%; Pred. No. 1.4e-12;  
 Matches 92; Conservative 11; Mismatches 87; Indels 74; Gaps 11;

QY 8 LQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 65  
 DB 134 LQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 193  
 QY 66 LPYPPQGSFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 125

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Db 194 LKLNHN-----QQQIQQQQQQ-----GRNLDLQQQQQQQQQQQQQQ--QQLALQ--- 241

QY 126 CNDVVLQCHNIAHNSQVLQGSTYQLQLDELCCGHLWQIPBSQCAIHNVHAILLHQQ 185

Db 242 -----PQQPMPQPPSPQALPQ-----QLQGMHTQH---HQPP 276

QY 186 KQQQPPSSQVSFQCPQLQZP-----LQGSFPPSP-----ONPAQ 221

Db 277 PQQQR--PVAQNSQSLPPQSQCPQLVSGAQLPQMLYTPPLKEFAPMNVQPPVQ 334

QY 222 GSVPPQLPQFEIENLALQTLPA 245

Db 335 PQVQQQ-----TAVQTAAQ 349

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RESULT 10
US-09-491-356C-9
: Sequence 9, Application US/09491356C
: Patent No. 6560641
: GENERAL INFORMATION:
: APPLICANT: Philibert, Robert A.
: APPLICANT: Gibbs, Edward I.
: APPLICANT: Dellisl, Lynn
: TITLE OF INVENTION: IDENTIFICATION OF POLYMORPHISMS IN THE PCTG4 REGION OF XOL3
: FILE REFERENCE: 9465.6US11
: CURRENT APPLICATION NUMBER: US/09/491.356C
: CURRENT FILING DATE: 2000-01-26
: PRIOR APPLICATION NUMBER: PCT/US99/09365
: PRIOR FILING DATE: 1999-04-29
: PRIOR APPLICATION NUMBER: 60/083,465
: PRIOR FILING DATE: 1998-04-29
: NUMBER OF SEQ ID NOS: 24
: SOFTWARE: Patentin version 3.1
: SEQ ID NO 9
: LENGTH: 2074
: TYPE: PRT
: ORGANISM: Mus musculus
: US-09-491-356C-9

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Query Match	15.1%	Score 216	DB 4	Length 2074
Best Local Similarity	30.6%	Pred. No. 3.5e-11		
Matches	87	Conservative 15	Mismatches 90	Indels 92
			Gaps 10	
QY	7	QLQPNPSQQPQDSVPLVWQQQDFPQQQ-QQDFPQQPY-----PQDPFPSSQQPY	55	
Db	1807	QQCPVTPQSQRLRQQ--LQSSQGMIGSSVYHMTSSSYGLQTSQLSPSLGGYTSYSH	1864	
QY	56	LQIQPFPQPHLYPQPSFPPQQPYPPQPPQSYQ-----	89	
Db	1865	VELQCHTGTADPTRHLQQPSSGYH-QQAPYGHGLSTQRFHQTLQOTPMNCTMPLS	1923	
QY	90	-----PQDPISQQQAQQQQQQQQQQQQQQQQQQQQQLQQLPQQLPCMDVVLQGHN	135	
Db	1924	AGCVAGVNSTILDEQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ-----QQY-	1973	
QY	136	IAHARQVYQGSTYQLQLCQLSCQHLMPESQSCQALHNVNHALILHQQKQQQQPSSQV	195	
Db	1974	-HRRQQQQQ-----QMLRQQQQQQQQQQ-----QQQQQQQQQQQQQQQ	2099	
QY	196	SFPQPLQCYPLQGSFPPSQNFPQASQVPPQQLPQPEERINLA	239	
Db	2010	QQQQPQQQ-----QQQAAPPQPPQSPQSPQFQGLQYQQQQQQT	2049	

RESULT 11  
US-09-491-356C-8  
; Sequence 8, Application US/09491356C  
; Patent NO. 6586061  
; GENERAL INFORMATION:  
; APPLICANT: Philbert, Robert A.  
; APPLICANT: Gims, Edward I.  
; APPLICANT: Deisel, Lynn  
; TITLE OF INVENTION: IDENTIFICATION OF POLYMORPHISMS IN THE PCT4 REGION OF XQ13

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? FILE REFERENCE: 9465.6US11
? CURRENT APPLICATION NUMBER: US/09/491.356C
? CURRENT FILING DATE: 2000-01-25
? PRIOR APPLICATION NUMBER: PCT/US99/09365
? PRIOR FILING DATE: 1999-04-29
? PRIOR APPLICATION NUMBER: 60/083,465
? PRIOR FILING DATE: 1998-04-29
? NUMBER OF SEQ ID NOS: 24
? SOFTWARE: Patentin version 3.1
? SEQ ID NO 8
? LENGTH: 2023
? TYPE: PRT
? ORGANISM: Homo sapiens
US-09-491-356C-8

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[illegible]

```

RESULT 12
US-09-538-092-1377
; Sequence 1377, Application US/09538092
; Patent No. 6753314
; GENERAL INFORMATION:
; APPLICANT: Glot, Loic
; APPLICANT: Mansfield, Traci A.
; TITLE OF INVENTION: Protein-Protein Complexes and Method of Using Same
; FILE REFERENCE: 15966-542
; CURRENT APPLICATION NUMBER: US/09/538,092
; CURRENT FILING DATE: 2000-03-29
; PRIOR APPLICATION NUMBER: 60/127,352
; PRIOR FILING DATE: 1999-04-01
; PRIOR APPLICATION NUMBER: 60/178,965
; PRIOR FILING DATE: 2000-02-01
; NUMBER OF SEQ ID NOS: 1387
; SOFTWARE: CnupatSeqFormatter Version 0.9
; SEQ ID NO 1377
; LENGTH: 2124
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: (0)...(0)
; OTHER INFORMATION: Polypeptide Accession Number Q93074
; US-09-538-092-1377

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Query Match          14.0%; Score 201; DB 4; Length 2124;
Best Local Similarity 29.2%; Pred. No. 8.e-10;
Matches      87; Conservative 15; Mismatches 90; Indels 106; Gaps 11;
OY      7 GAGPNNPSCQPPQDSVPLVWQQQPFPGQQ--CQPPQQPFY----- 43

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Page 7

Search completed: December 14, 2004, 17:28:59  
Job time : 20 secs

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17:09:46 ; Search time 64.8333 Seconds  
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us-10-089-700-3-h65.rapb

Page 1

Qy  
Db

OM protein  
Run on: 6

Satisfying chosen parameters:

1585576

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length: 0
length: 20000000000

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Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications\_AA:1

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

## SUMMARIES

Result	Score	Query	Match	Length	DB	ID	Description
1	134.5	93.8	287	17	US-10-779-930-9777		Sequence 9777, Ap
2	124.5	86.7	319	17	US-10-778-930-9619		Sequence 9619, Ap
3	120.0	86.5	288	17	US-10-778-930-9780		Sequence 9770, Ap
4	98.9	49.1	325	17	US-10-779-930-9643		Sequence 9643, Ap
5	56.5	38.3	284	17	US-10-474-935-1011		Sequence 1011, App
6	54.6	38.1	286	17	US-10-779-930-9621		Sequence 9621, App
7	54.4	35.5	279	17	US-10-474-935-97		Sequence 97, Appl
8	54.4	36.5	279	17	US-10-474-935-99		Sequence 99, Appl
9	52.3	36.3	279	17	US-10-474-935-98		Sequence 98, Appl
10	52.3	36.3	279	17	US-10-474-935-98		Sequence 100, Appl

14	277	-9.3	541	17	US-10-425-115-200100	Sequence 200100,
15	274	-19.1	283	17	US-10-425-115-200097	Sequence 200097,
16	268	-18.7	1162	11	US-09-894-273-2	Sequence 2, Appl1
17	268	-18.7	1162	14	US-10-294-804-2	Sequence 2, Appl1
18	265.5	-18.5	1069	14	US-10-161-927-54	Sequence 54, Appl1
19	259	-18.1	905	16	US-10-451-467A-64	Sequence 64, Appl1
20	256	-17.9	323	15	US-10-425-114-44003	Sequence 44003, A
21	247.5	-17.3	329	15	US-10-425-159-270450	Sequence 270450, A
22	244.5	-17.3	1230	15	US-10-425-114-41056	Sequence 41056, A
23	240	-16.7	358	14	US-10-104-047-370	Sequence 3710, Ap
24	232.5	-16.2	192	15	US-10-425-114-552411	Sequence 52411, A
25	233.5	-16.1	148	14	US-10-465-217-15	Sequence 15, Appl1
26	230	-16.0	1544	14	US-10-425-114-72709	Sequence 72709, A
27	229.5	-16.0	364	17	US-10-425-115-261231	Sequence 261231, A
28	226	-15.7	738	16	US-10-451-467A-338	Sequence 238, Appl1
29	225	-15.7	1173	16	US-10-437-963-144743	Sequence 144743, A
30	225	-15.7	1236	16	US-09-769-787-109	Sequence 109, Appl1
31	224.5	-15.7	351	15	US-10-464-004-2693	Sequence 2693, Ap
32	221	-15.4	4952	15	US-10-051-874-56	Sequence 56, Appl1
33	221	-15.4	5008	15	US-10-051-874-116	Sequence 166, Appl1
34	221	-15.4	5159	15	US-10-085-199-112	Sequence 112, Appl1
35	221	-15.4	5262	15	US-10-051-874-185	Sequence 185, Appl1
36	221	-15.4	5282	15	US-10-051-874-167	Sequence 167, Appl1
37	220.5	-15.4	1645	15	US-10-463-929-176	Sequence 176, Appl1
38	216.5	-15.1	1024	16	US-10-479-546-12	Sequence 12, Appl1
39	216.5	-15.1	1151	15	US-10-479-546-11	Sequence 11, Appl1
40	215.5	-15.0	1351	15	US-10-482-122A-75147	Sequence 75147, A
41	213.5	-14.9	1359	16	US-10-437-963-190032	Sequence 190032, A
42	213	-14.9	1343	16	US-10-482-122A-75965	Sequence 75965, A
43	213	-14.9	1962	9	US-09-815-342-14009	Sequence 14009, A
44	211.5	-14.7	1964	15	US-10-425-114-55600	Sequence 55600, A
45	208.5	-14.5	1025	16	US-10-437-963-113116	Sequence 113116, A

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RESULT 1
US-10-739-930-9777
; Sequence 9777, Application US/10739930
; Publication No. US20040216190A1
; GENERAL INFORMATION:
; APPLICANT: KOVALIC, David K.
; TITLE OF INVENTION: NUCLEIC ACID MOLECULES ASSOCIATED WITH
; TITLE OF INVENTION: PLANTS AND USES THEREOF FOR PLANT IMPROVEMENT
; FILE REFERENCE: 38-21(53377)B
; CURRENT APPLICATION NUMBER: US/10/739,930
; CURRENT FILING DATE: 2003-12-18
; NUMBER OF SEQ ID NOS: 11088
; SEQ ID NO 9777
; LENGTH: 287
; TYPE: prt
; ORGANISM: Triticum aestivum
; FEATURE:
; OTHER INFORMATION: Clome ID: TRIAE-23APRO3-C176_238.p
US-10-739-930-9777

```

[illegible]



```

; Sequence 101, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:
; APPLICANT: Drifhout, Jan W.
; APPLICANT: Konig, Frits
; APPLICANT: Mcadam, Stephan N.
; APPLICANT: Ludwig, Solliid Magne
; TITLE OF INVENTION: DO BINDING PROLAMINE-DERIVED PEPTIDES
; FILE REFERENCE: 2799/71244-PCT-US
; CURRENT APPLICATION NUMBER: US/10/474,955
; CURRENT FILING DATE: 2003-10-13
; NUMBER OF SEQ ID NOS: 137
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 101
; LENGTH: 282
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Amino acid sequence of GAMMA-1
US-10-474-955-101

```

```

Query Match      38.9%; Score 557.5; DB 17; Length 282;
Best Local Similarity 47.6%; Pred. No. 5,5e-36;
Matches 138; Conservative 32; Mismatches 73; Indels 47; Gaps 15;

QY 2 RVPVPOL-----QPQNPSSQGPQGVPLVQGGQFPGQ--QGGF-----PPQGPYPQF-QPFP 51
DB 10 QVPMQPPQPFQHPQFQHPQFQHPQFQHPQFQHPQFQHPQFQHPQFQHPQFQHPQFQHPQFQ 68
QY 52 --QGPYLG--LQPFQHP--YPPQSFPPQGPYPQGPQGPQGPQGPQGPQGPQGPQGPQGPQGP 106
DB 69 QPQGVYPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 118
QY 107 QQQQQQQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLL 162
DB 119 PPQPPQPSLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLLQQLL 178
QY 163 IPQGGQCAHNVVAIILHQQCKKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 221
DB 179 IPQGGQCAHNVVAIILHQQCKKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 229
QY 222 GSVQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 264
DB 230 GIIPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 279

```

```

RESULT 6
US-10-739-930-9621
; Sequence 9621, Application US/10739930
; Publication No. US20040216190A1
; GENERAL INFORMATION:
; APPLICANT: Kovalic, David K.
; APPLICANT: Kovalic, David K.
; TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH
; FILE REFERENCE: 38-21(53377)B
; CURRENT APPLICATION NUMBER: US/10/739,930
; CURRENT FILING DATE: 2003-12-18
; NUMBER OF SEQ ID NOS: 11088
; SEQ ID NO 9621
; LENGTH: 298
; TYPE: PRT
; ORGANISM: Triticum aestivum
; FEATURE:
; OTHER INFORMATION: Clone ID: TRIA-23APR03-C125-65-J
US-10-739-930-9621

```

```

Query Match      38.1%; Score 546.5; DB 17; Length 298;
Best Local Similarity 46.9%; Pred. No. 4,3e-35;
Matches 134; Conservative 26; Mismatches 75; Indels 49; Gaps 14;

QY 4 PVPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 61

```

```

DB 36 PVP--QPHQPPSQGP-----QGTFFPQGTFFPQGPQGPQGPQGPQGPQGPQGPQGPQGP 84
QY 62 P-QPHLPYPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 110
DB 85 PQQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 140
QY 111 QQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQ 166
DB 141 QPFFIOPSILQQGVNFCRKFLLQCKKPVSLWSLMSLMSLMSLMSLMSLMSLMSLMSLMSLMS 200
QY 167 SCCCAIHNVVAIILHQQCKKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 225
DB 201 LQCAHHTVSHIILHQQCKKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 251
QY 226 PQQPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 264
DB 252 PQQPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 297

```

```

RESULT 7
US-10-474-955-97
; Sequence 97, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:
; APPLICANT: Drifhout, Jan W.
; APPLICANT: Konig, Frits
; APPLICANT: Mcadam, Stephan N.
; APPLICANT: Ludwig, Solliid Magne
; TITLE OF INVENTION: DO BINDING PROLAMINE-DERIVED PEPTIDES
; FILE REFERENCE: 2799/71244-PCT-US
; CURRENT APPLICATION NUMBER: US/10/474,955
; CURRENT FILING DATE: 2003-10-13
; NUMBER OF SEQ ID NOS: 137
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 97
; LENGTH: 279
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Consensus amino acid sequence
US-10-474-955-97

```

```

Query Match      36.5%; Score 524; DB 17; Length 279;
Best Local Similarity 46.2%; Pred. No. 2,4e-33;
Matches 132; Conservative 26; Mismatches 76; Indels 52; Gaps 14;

QY 4 PVPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 61
DB 18 PVP--QPHQPPSQGP-----QGTFFPQGTFFPQGPQGPQGPQGPQGPQGPQGPQGPQGP 66
QY 62 P-QPHLPYPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 110
DB 67 PQQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 122
QY 111 QQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQILQQ 166
DB 123 QPFFIOPSILQQGVNFCRKFLLQCKKPVSLWSLMSLMSLMSLMSLMSLMSLMSLMSLMSL 182
QY 167 SCCCAIHNVVAIILHQQCKKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 225
DB 183 LQCAHHTVSHIILHQQCKKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 251
QY 226 PQQPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 264
DB 231 PQQPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 276

```

```

RESULT 8
US-10-474-955-99
; Sequence 99, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:

```

APPLICANT: Drifhout, Jan W.  
 APPLICANT: Koning, Frits  
 APPLICANT: McAdam, Stephan N.  
 APPLICANT: Ludwig, Solid Magne  
 TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS  
 TITLE OF INVENTION: DO BINDING PROMOTIN- DERIVED PEPTIDES  
 FILE REFERENCE: 2799/71244-PCT-US  
 CURRENT APPLICATION NUMBER: US/10/474,955  
 CURRENT FILING DATE: 2003-10-13  
 NUMBER OF SEQ ID NOS: 137  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 99  
 LENGTH: 279  
 TYPE: PRT  
 ORGANISM: Artificial Sequence  
 FEATURE:  
 OTHER INFORMATION: Amino acid sequence of GAMMA-4  
 US-10-474-955-99

Query Match 36.5%; Score 524; DB 17; Length 279;  
 Best Local Similarity 46.2%; Pred. No. 2,4e-33;  
 Matches 132; Conservative 26; Mismatches 76; Indels 52; Gaps 14;

```

  4 PVPOLQPNPNSQQQPCQGVPLVQQQCPFGQQQQQFP--PQQPYQPQPPFSQCPYLQLPF 61
  18 PVP--QPHQPPSQP-----QTRPQPQTFPHQPPQQQFPQPPQ--PQQQFLQPPQPF 66
  62 P-QPHLPYQPQSPFPQPPQPPQ-----PQYSQPQPPISQQQAQ-----QQQQQQQQQQ 110
  67 PQQPQPQPPQ-----QPQQPFPQTQQPQQLPFPQSQCPQPPQSPQCPFPQPPQPPQ 122
  111 QQQILQQILQQQLIPCKMDVILQGN-----IAHARSQVLQGSTYQLQELCCQHLMQIPQ 166
  123 QPPIQPSLQQQVPCNKFLLQCKPVLVSLMSMTWPSDCQVMRQSQQLAQIPQ 182
  167 SOCAIHNVVAIIHQQKQKQQQSSQVSPQPL-QQYPLQGSFRRSQQNPQAQSVQ 225
  183 LQCAIHVAHSHIMQEQEQ-----GMHILPLVQQQVGGTL-----VQGGIIG 230
  226 PQQPQPEIRNLQTLPMCNVYIAPYCTI--APF-----GIFG 264
  231 PQQPQLEAIRSLVLTPLTMCNVYVPECSIIKAPFSVAGIGG 276
  
```

RESULT 9  
 US-10-474-955-98  
 Sequence 98, Application US/10474955  
 Publication No. US20040241161A1  
 GENERAL INFORMATION:  
 APPLICANT: Drifhout, Jan W.  
 APPLICANT: Koning, Frits  
 APPLICANT: McAdam, Stephan N.  
 APPLICANT: Ludwig, Solid Magne  
 TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS  
 TITLE OF INVENTION: DO BINDING PROMOTIN- DERIVED PEPTIDES  
 FILE REFERENCE: 2799/71244-PCT-US  
 CURRENT APPLICATION NUMBER: US/10/474,955  
 CURRENT FILING DATE: 2003-10-13  
 NUMBER OF SEQ ID NOS: 137  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 98  
 LENGTH: 279  
 TYPE: PRT  
 ORGANISM: Artificial Sequence  
 FEATURE:  
 OTHER INFORMATION: Amino acid sequence of GAMMA-2  
 US-10-474-955-98

Query Match 36.3%; Score 520; DB 17; Length 279;  
 Best Local Similarity 45.8%; Pred. No. 4,9e-33;  
 Matches 131; Conservative 26; Mismatches 77; Indels 52; Gaps 14;

4 PVPOLQPNPNSQQQPCQGVPLVQQQCPFGQQQQFP--PQQPYQPQPPFSQCPYLQLPF 61

DB 18 PVP--QPHQPPSQP-----QTRPQPQTFPHQPPQQQFPQPPQ--PQQQFLQPPQPF 66  
 QY 62 P-QPHLPYQPQSPFPQPPQPPQ-----PQYSQPQPPISQQQAQ-----QQQQQQQQQQ 110  
 DB 67 PQQPQPQPPQ-----QPQQPFPQTQQPQQLPFPQSQCPQPPQSPQCPFPQPPQPPQ 122  
 QY 111 QQQILQQILQQQLIPCKMDVILQGN-----IAHARSQVLQGSTYQLQELCCQHLMQIPQ 166  
 DB 123 QPPIQPSLQQQVPCNKFLLQCKPVLVSLMSMTWPSDCQVMRQSQQLAQIPQ 182  
 QY 167 SOCAIHNVVAIIHQQKQKQQQSSQVSPQPL-QQYPLQGSFRRSQQNPQAQSVQ 225  
 DB 183 LQCAIHVAHSHIMQEQEQ-----GMHILPLVQQQVGGTL-----VQGGIIG 230  
 QY 226 PQQPQPEIRNLQTLPMCNVYIAPYCTI--APF-----GIFG 264  
 DB 231 PQQPQLEAIRSLVLTPLTMCNVYVPECSIIKAPFSVAGIGG 276

RESULT 10  
 US-10-474-955-100  
 Sequence 100, Application US/10474955  
 Publication No. US20040241161A1  
 GENERAL INFORMATION:  
 APPLICANT: Drifhout, Jan W.  
 APPLICANT: Koning, Frits  
 APPLICANT: McAdam, Stephan N.  
 APPLICANT: Ludwig, Solid Magne  
 TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTOR-  
 TITLE OF INVENTION: DO BINDING PROMOTIN- DERIVED PEPTIDES  
 FILE REFERENCE: 2799/71244-PCT-US  
 CURRENT APPLICATION NUMBER: US/10/474,955  
 CURRENT FILING DATE: 2003-10-13  
 NUMBER OF SEQ ID NOS: 137  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 100  
 LENGTH: 279  
 TYPE: PRT  
 ORGANISM: Artificial Sequence  
 FEATURE:  
 OTHER INFORMATION: Amino acid sequence of GAMMA-3  
 US-10-474-955-100

Query Match 36.3%; Score 520; DB 17; Length 279;  
 Best Local Similarity 46.0%; Pred. No. 4,9e-33;  
 Matches 131; Conservative 26; Mismatches 76; Indels 50; Gaps 14;

```

  4 PVPOLQPNPNSQQQPCQGVPLVQQQCPFGQQQQFP--PQQPYQPQPPFSQCPYLQLPF 61
  18 PVP--QPHQPPSQP-----QTRPQPQTFPHQPPQQQFPQPPQ--PQQQFLQPPQPF 66
  62 P-QPHLPYQPQ-----PQSPFPQPPV--QPQPYQPQPPISQQQAQ-----QQQQQQQQQQ 111
  67 PQQPQPQPPQPPQQLPFPQTQQPQQLPFPQSQCPQPPQSPQCPFPQPPQPPQ 123
  112 QQQILQQILQQQLIPCKMDVILQGN-----IAHARSQVLQGSTYQLQELCCQHLMQIPQ 167
  124 PFIQPSLQQQVPCNKFLLQCKPVLVSLMSMTWPSDCQVMRQSQQLAQIPQ 183
  168 SOCAIHNVVAIIHQQKQKQQQSSQVSPQPL-QQYPLQGSFRRSQQNPQAQSVQ 226
  184 QCAIHVYHSHIMQEQEQ-----GMHILPLVQQQVGGTL-----VQGGIIG 231
  227 QQLPQPEIRNLQTLPMCNVYIAPYCTI--APF-----GIFG 264
  232 QQPQLEAIRSLVLTPLTMCNVYVPECSIIKAPFSVAGIGG 276
  
```

RESULT 11  
 US-10-739-930-9778  
 Sequence 9778, Application US/10739930  
 Publication No. US20040216190A1



SEQ ID NO 200100  
LENGTH: 541  
TYPE: PRT  
ORGANISM: Zea mays  
FEATURE:  
NAME/KEY: unsure  
LOCATION: (1)-(541)  
OTHER INFORMATION: unsure at all Xaa locations  
FEATURE:  
OTHER INFORMATION: Clone ID: MRT4577\_114080C.1.pep  
US-10-425-115-200100

Query Match 19.3%; Score 277; DB 17; Length 541;  
Best Local Similarity 37.5%; Pred. No. 1.4e-13;  
Matches 90; Conservative 20; Mismatches 80; Indels 50; Gaps 11;

QY 9 QPQNPSSQQLQEQVPLVQQQCPFGQQQCPFPQCPYCPQCPFPSPQCPYLQCPFPQPHLPY 68  
DB 328 KPQASTQCTPMQ---QQLQQFQQQQQL-QQHMQPQGLPLQSQSQMLQ-----Q 375  
QY 69 PQPQSPQCPYP---QPQPYSPQ-QPISQQQAQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 124  
DB 376 QCPQMPQMQQQQSQMQQQQSQMQQQMPQMQQQMQHQQQQQMQQQQQMQQQQQQQQQ 433  
QY 125 PCMDVVLQQHNIHANSQVLQGSTYQLQLCCCHLMQIPBQSCQAIHNVVHAIIILHQ 184  
DB 434 -----QQQQQQQIQPQQQQMQQQQQQQQQQQ-----QPQQQQMQM-----QQ 470  
QY 185 QKQQQPSSQVSPQCPPLQGYPLQGSFRP-SQONPQAGSVQPCQLPQFEEIRNLALQTL 243  
DB 471 QQQQMQPQ-----QQCMQMQQQQQQQMQPQQQQQPMVGTGMQ---QPMQHNRNAVQM 522

RESULT 15

US-10-425-115-200097  
Sequence 200097, Application US/10425115  
Publication No. US20040214272A1  
GENERAL INFORMATION:  
APPLICANT: La Rosa, Thomas J.  
APPLICANT: Kovalic, David K.  
APPLICANT: Zhou, Yihua  
APPLICANT: Cao, Yongwei  
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With  
TITLE OF INVENTION: Plants  
FILE REFERENCE: 38-21(53222)B  
CURRENT APPLICATION NUMBER: US/10/425,115  
CURRENT FILING DATE: 2003-04-28  
NUMBER OF SEQ ID NOS: 369326  
SEQ ID NO 200097  
LENGTH: 283  
TYPE: PRT  
ORGANISM: Zea mays  
FEATURE:  
NAME/KEY: unsure  
LOCATION: (1)-(283)  
OTHER INFORMATION: unsure at all Xaa locations  
FEATURE:  
OTHER INFORMATION: Clone ID: MRT4577\_114078C.1.pep  
US-10-425-115-200097

Query Match 19.1%; Score 274; DB 17; Length 283;  
Best Local Similarity 38.2%; Pred. No. 1.2e-13;  
Matches 92; Conservative 20; Mismatches 71; Indels 58; Gaps 13;

QY 9 QPQNPSSQQLQEQVPLVQQQCPFGQQQCPFPQCPYCPQCPFPSPQCPYLQCPFPQPHLPY 68  
DB 76 KPQASTQCTPMQ---QQLQQFQQQQQL-QQHMQPQGLPLQSQSQMLQ-----Q 123  
QY 69 PQPQSPQCPYP---QPQPYSPQ-QPISQQ-QAQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 123  
DB 124 QCPQMPQMQQQQSQMQQQQSQMQQQMPQMQQQMQHQQQQQMQQQQQMQQQQQQQQQ 183  
QY 124 PCMDVVLQQHNIHANSQVLQGSTYQLQLCCCHLMQIPBQSCQAIHNVVHAIIILHQ 183

DB 184 QP-----QQQM-----QQMQQQQQQQMQ-----PQQQQMQM-----Q 211  
QY 184 QKXQQQPSQVSPQCPPLQGYPLQGSFRP-SQONPQAGSVQPCQLPQFEEIRNLALQTL 242  
DB 212 QQQQQMQPQ-----QQCMQMQQQQQQQMQPQQQQQPMVGTGMQ---QPMQHNRNAVQM 263  
QY 243 L 243  
DB 264 M 264

Search completed: December 14, 2004, 17:35:34  
Job time : 66.8333 secs

1	1363	95.0	286	2	S07923	alpha/beta-gliadin
2	1355	94.5	286	1	EMWTA	alpha/beta-gliadin
3	1311	91.4	288	1	T06282	alpha-gliadin prec
4	1265.5	88.3	291	2	T06498	alpha/beta-gliadin
5	1266.5	88.3	297	2	S10015	alpha/beta-gliadin
6	1262	88.0	296	2	S07261	alpha/beta-gliadin
7	1260	87.9	313	2	S07924	alpha/beta-gliadin
8	1256	87.6	296	2	A27319	gliadin - wheat
9	1247.5	87.0	319	2	A23264	alpha/beta-gliadin
10	1244.5	86.8	319	2	C22364	alpha/beta-gliadin
11	1234.5	85.1	297	2	T06500	alpha/beta-gliadin
12	1222	85.2	326	2	D22364	alpha/beta-gliadin
13	1205	84.0	320	2	E22364	alpha/beta-gliadin
14	1182	82.4	282	2	T06504	alpha/beta-gliadin
15	1154.5	80.5	292	2	B22364	alpha/beta-gliadin
16	588	41.0	327	2	JS0402	gamma-gliadin prec
17	548.5	38.2	291	1	EMWTA	gamma-gliadin B pr
18	540	37.7	302	2	JA0153	gamma-gliadin prec
19	488	34.0	305	2	S08312	gamma-bordein 1 pr
20	468	32.6	286	2	T05718	gamma-bordein 3 -
21	460.5	32.1	374	2	T05923	glutenin low molec
22	456.5	31.8	359	2	T06982	glutenin low molec
23	453.5	31.6	356	2	S01992	glutenin low molec
24	447.5	31.2	304	2	T06505	hordein B1 - barley
25	446	31.1	293	2	S07365	B3-hordein (clone
26	445	31.0	264	2	S07975	glutenin low molec
27	442	30.8	285	2	S20853	glutenin low molec
28	442	30.8	286	2	T05910	glutenin low molec
29	441.5	30.8	298	2	T06980	glutenin low molec

S07923  
alpha/beta-gliadin precursor - wheat  
C:Species: Triticum aestivum (common wheat)  
C:Date: 08-Jun-1994 #revision 01-Dec-1995 #ext\_change 20-Aug-1999  
C:Accession: S07923  
R:Sumner-Smith, M.; Rafalski, J.A.; Sugiyama, T.; Stoll, M.; Seell, D.  
Nucleic Acids Res. 13, 3905-3916, 1985  
A>Title: Conservation and variability of wheat alpha/beta-gliadin genes.  
A:Reference number: S07361, PMID:8542077, PMID:3839304  
A:Accession: S07923  
A>Status: preliminary; translation not shown  
A:Molecule type: DNA  
A:Residues: 1-286 <DU>  
A:Cross-references: EMBL:X02539; NID:G21760; PIDN:CAA6384.1; PID:G21761  
C:Superfamily: gliadin

Query Match	95.0%	Score 1363;	DB 2;	Length 286;
Best Local Similarity	95.9%	Pred No.2.5e-84;		
Matches 255;	Conservative	0;	Mismatches 11;	Indels 0;
				Gaps 0;

```

QY      1 VRVVPFQIQPQNPSQQQEQEYVPLVQQQQLPQQQQQQPPQQQYPOBPSPSQQPFYQLQLP 60
Db      21 VRFPVQLQPNPSSQQQPOEYVPLVQQQQQLPQQQPPQQQYPOBPSPSQQLPYQLQLP 80
QY      61 FFPQPHYPQPPQSPFPQQPFYPOBPQYSPQPPFISQQQQAQQQQQQQQQQQLLQQQLIQ 120
Db      81 FQPQLTFPSQPQQFPPQBPYPOBPQYSPQPPQPPISQQQQQQQQQQQQQQQQQLLQQQLIQ 140
QY      121 QQLICMNVYLQONHINAHRSQVLTQQSTQLQLQELCCOHLWQIPBSQSCQALHNVVHAIL 180
Db      141 QQLIFPMDEVLTQONHINAHRSQVLTQQSTQLQLQELCCQHLWQIPBSQSCQALHNVVHAIL 200
QY      181 LHQQKQKQQQSSQVYSFQQLQYPLQGSFPPSQQNPQAQGSVQPPQQLPQPEIRTNLAL 240
Db      201 LHQQKQKQQQSSQVYSFQQLQYPLQGSFPPSQQNPQAQGSVQPPQQLPQPEIRTNLAL 260
QY      241 QTLPMCMNVYIAPYCTIAFFGIFFGTN 266
Db      261 QTLPMCMNVYIIPYCTIAFFGIFFGTN 286

```

RESULT 2  
EEMTA  
alpha/beta-gliadin precursor - wheat  
N.Alternate names: prolamin  
C.Species: Triticum aestivum (common wheat)  
C.Date: 28-May-1986 #sequence\_revision 28-May-1986 #text\_change 09-Jul-2004  
C.Accession: A03354  
R.Rafalski, J.A.; Scheer, K.; Matzler, M.; Peterson, D.W.; Hedgcock, C.; Soll, D.G.  
EMBO J. 3, 1409-1415, 1984  
A.Title: Developmentally regulated plant genes: the nucleotide sequence of a wheat gl







[REDACTED]

[REDACTED]

[REDACTED]

1880

1880

1880



A:Residues: 1-292 &lt;OK&gt;

A:Cross-references: UNIPROT:P04721

C:Superfamily: gliadin

F:1-20/Domain: signal sequence #status predicted &lt;SIG&gt;

F:21-292/Product: alpha/beta-gliadin #status predicted &lt;MAT&gt;

Query Match 80.5%; Score 1154.5; DB 2; Length 292;

Best Local Similarity 84.1%; Pred. No. 2; Le-70; Indels 31; Gaps 4;

Matches 227; Conservative 2; Mismatches 10;

```
01 1 VRVVPQLPQNPSSQQLPQEQVPLVQQQQFPQSQQPPFPQPPQPPQPPPSQQPYLQLQP 60
   |||||
21 VRVVPQLQLQNPSSQQLPQEQVPLVQQQQFLGQQQPPFPQPPQPPQPPPSQQPYLQLQP 80
   |||||
61 F--PQ--PPLPYPQPSFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQ 114
   |||||
81 FLQPQPPPPQLPYSQPQPPPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQ 140
   |||||
115 LQQLLQQLPQMDVVLQCHNTAHASQVLAQSTYQLQLQLCCQHLWQIPRQSCCAIHN 174
   |||||
141 IQQLLQQLPQMDVVLQCHNTVHKSQVLAQSTYQLQLQLCCQHLWQIPRQSCCAIHN 200
   |||||
175 VVAHIIILH-----QKKKQKQKSSQVSPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 209
   |||||
201 VVAHIIILHQQQQQQQEQKQQLQQQQQQQQLQKKKQKQKSSQVSPQPPQPPQPPQPPQPP 260
   |||||
02 210 SPRESQNPQAQGSVPQQLPQFEIRNLA 239
   |||||
03 261 SPRESQNPQAQGSVPQQLPQFEIRNLA 290
   |||||
```

Search completed: December 14, 2004, 17:26:59

CPU time : 16 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 14, 2004, 17:01:05 : Search time 79 Seconds  
(without alignments)  
1937.337 Million cell updates/sec

Title: US-10-089-700-3-H65

Perfect score: 1434

Sequence: 1 VRYVPVQLQPQNSQQQPOE.....CNVYIAPYCTIAPFGIGFTN 266

Scoring table:

BLOSUM62  
Gapop 10.0 , Gapect 0.5

Searched: 1825181 seqs, 575374646 residues

Total number of hits satisfying chosen parameters: 1825181

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database :

1: uniprot\_sprot:\*  
2: uniprot\_trembl:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1367	95.3	269	2 Q9M4L7	Q9M4L7 triticum ae
2	1355	94.5	286	1 GDA0_WHEAT	P02863 triticum ae
3	1355	94.5	286	1 AAA95525	AAA95525 triticum ae
4	1353	94.4	288	2 Q9ZP09	Q9ZP09 triticum ae
5	1349.5	94.1	274	2 Q9M4M5	Q9M4M5 triticum ae
6	1349.5	94.1	276	2 Q9M4M2	Q9M4M2 triticum ae
7	1344.5	93.8	287	2 Q41509	Q41509 triticum ae
8	1343	93.7	277	2 Q9M4I8	Q9M4I8 triticum ae
9	1340.5	93.5	276	2 Q9M4I0	Q9M4I0 triticum ae
10	1336.5	93.2	289	2 Q41531	Q41531 triticum ae
11	1329.5	92.7	270	2 Q9M4L9	Q9M4L9 triticum ae
12	1328.5	92.6	278	2 Q9M4M1	Q9M4M1 triticum ae
13	1314.5	91.7	259	2 Q41533	Q41533 triticum ae
14	1311	91.4	288	2 Q41530	Q41530 triticum ae
15	1298.5	90.6	287	2 Q41528	Q41528 triticum ae
16	1266.5	88.3	290	2 Q9M4L6	Q9M4L6 triticum ae
17	1266.5	88.3	291	1 GDA2_WHEAT	P04722 triticum ae
18	1266.5	88.3	307	1 GDA9_WHEAT	P18573 triticum ae
19	1262	88.0	296	1 GDA6_WHEAT	P04726 triticum ae
20	1261	87.9	313	1 GDA7_WHEAT	P04546 triticum ae
21	1260	87.9	313	2 Q41546	Q41546 triticum ae
22	1256	87.6	296	2 Q41632	Q41632 triticum ae
23	1253	87.4	273	2 Q9M4M4	Q9M4M4 triticum ae
24	1248	87.0	318	2 Q41545	Q41545 triticum ae
25	1247.5	87.0	319	1 GDA5_WHEAT	P04725 triticum ae
26	1245	86.8	313	2 Q41529	Q41529 triticum ae
27	1234.5	86.1	297	1 GDA4_WHEAT	P04724 triticum ae
28	1199.5	83.6	262	1 GDA1_WHEAT	P04721 triticum ae
29	1196	83.4	265	2 Q9M4M3	Q9M4M3 triticum ae
30	1192	83.1	265	2 Q9M4M6	Q9M4M6 triticum ae
31	1182	82.4	282	1 GDA3_WHEAT	P04723 triticum ae

32	933	65.1	186	1 GDA8_WHEAT	P04728 triticum ae
33	593.5	41.4	455	2 Q9FR41	Q9FR41 secale cere
34	589	41.1	308	2 Q9M6P7	Q9M6P7 triticum ae
35	589	41.1	311	2 Q6E9W9	Q6E9W9 triticum ae
36	588	41.1	327	2 Q94G91	Q94G91 triticum ae
37	588	41.0	327	1 GDA8_WHEAT	P04728 triticum ae
38	580	40.4	337	2 Q94G36	Q94G36 triticum ae
39	568	39.6	300	2 Q9FEA8	Q9FEA8 aegilops bi
40	568	39.6	300	2 Q9FUA1	Q9FUA1 aegilops lo
41	557.5	38.9	274	2 Q6E9X0	Q6E9X0 triticum ae
42	557.5	38.9	282	2 Q6E9W7	Q6E9W7 triticum ae
43	557.5	38.9	298	2 Q94G32	Q94G32 triticum ae
44	555.5	38.7	275	2 Q6E9W4	Q6E9W4 triticum ae
45	554	38.6	275	2 Q6E9W2	Q6E9W2 triticum tu

## ALIGNMENTS

RESULT 1					
Q9M4L7	PRELIMINARY;	PRT;	269 AA.		
AC Q9M4L7					
DT 01-OCT-2000 (TREMBlrel. 15, Created)					
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)					
DT 01-MAR-2004 (TREMBlrel. 26, Last annotation update)					
DE Alpha-gladiin.					
OS Triticum aestivum (Wheat).					
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;					
OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Poaceae;					
OC Triticaceae; Triticum.					
OC NCBI_Taxid=4565;					
RN [1]					
RC SEQUENCE FROM N.A.					
RP STRAIN=Mjceliner; TISSUE=Endosperm;					
RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,					
RA Solliid L.M.;					
RU Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.					
DR EMBL: AJ133611; CAB76963.1; -					
DR GO: GO:0045735; P:nutrient reservoir activity; IEA.					
DR InterPro: IPR003612; AAI.					
DR InterPro: IPR001376; Gliadin.					
DR InterPro: IPR001954; Gliadin.					
DR Pfam: PF00234; TYP alpha amyl. 1.					
DR PRINTS: PR00208; GLIADGLUTEN.					
DR PRINTS: PR00209; GLIADIN.					
DR SMART: SM00499; AAI; 1.					
FT CHAIN					
FT SEQUENCE 269 AA; 31292 MW; 8712706FD15EC78B CRC64;					
Query Match	95.3%;	Score 1367;	DB 2;	Length 269;	
Best Local Similarity	96.2%;	Pred. No. 1.4e-75;			
Matches 256;	Conservative	0;	Mismatches 10;	Indels 0;	Gaps 0;
QY 1 VRYVPVQLQPQNSQQQPOEQLVYQQQCFPQQQQCFPQQQYPPQPPSPQQPYLQOP 60					
2 VRYVPVQLQPQNSQQQPOEQLVYQQQCFPQQQQCFPQQQYPPQPPSPQQPYLQOP 61					
QY 61 FPPQHPYPPQPPSPQQQYPPQPPSPQQQPISSQQQHQQQQQQQQQQQQQQQQQQQ 120					
QY 62 FPPQHPYPPQPPSPQQQYPPQPPSPQQQPISSQQQHQQQQQQQQQQQQQQQQQQQ 121					
DB 122 QQLIPGMDVYLQGHNIHAHRSQVLTQSTYQLQLQELCCCHLMQIPESQCCALHNVTAT 181					
QY 121 QQLIPGMDVYLQGHNIHAHRSQVLTQSTYQLQLQELCCCHLMQIPESQCCALHNVTAT 180					
QY 181 LHQQQHQQQQSSQVFPQQLQCYPLQGSSFPSPQSNPPAQSSVQQLPQFEIRNLAL 240					
DB 182 LHQQQHQQQQSSQVFPQQLQCYPLQGSSFPSPQSNPPAQSSVQQLPQFEIRNLAL 241					
QY 241 QTLPMQNVYIAPYCTIAPFGIGFTN 266					
DB 242 QTLPMQNVYIAPYCTIAPFGIGFTN 267					



OC Triticeae; *Triticum*.

OC      Triticaceae; Triticum.

```
DR SMART; SM00499; AAL; 1.
ET CHAIN 1 376 a]rh=-c]!;ad!;r
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DR PRINTS: P300209; GLIADIN.

FT	CHAIN	1	276	alpha-gliadin.
----	-------	---	-----	----------------





OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticeae; Triticum.  
 OC NCBI\_Taxid=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Mjocelner; TISSUE=Endosperm;  
 RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,  
 RA Scollid L.M.;  
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; AJ133608; CAB76960.1; -  
 DR GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DR InterPro; IPR003612; AAI.  
 DR InterPro; IPR001954; Glia\_glutenin.  
 DR Pfam; PF00234; Tryp\_alpha\_amy1; 1.  
 DR PRINTS; PR00208; GLIADGLUTEN.  
 DR SMART; SM00499; AAI; 1.  
 DR CHAIN 1  
 FT SEQUENCE 276 AA; 3221 MW; 6A2E9723D42B100A CRC64;  
 SQ  
 Query Match 93.5%; Score 1340.5; DB 2; Length 276;  
 Best Local Similarity 92.7%; Pred. No. 5.8e-74;  
 Matches 253; Conservative 2; Mismatches 11; Indels 7; Gaps 1;  
 QY 1 VRVVPOLQPNPSSQSQPQEQVPLVQOQOQFPGQOQOFPFPQPPYQPPFPSSQCPYLQLP 60  
 Db 2 VRVVPOLQPNPSSQSQPQEQVPLVQOQOQFPGQOQOFPFPQPPYQPPFPSSQCPYLQLP 61  
 QY 61 FPQPHLPYPPQSPFPQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPY 113  
 Db 62 FPQPHLPYPPQSPFPQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPY 121  
 QY 114 ILQQLIPCMQDVLLQCHNINHARSQVLOQSTYQLQELCCQHLMOIPRQSCQAIHNVH 173  
 Db 122 ILQQLIPCMQDVLLQCHNINHARSQVLOQSTYQLQELCCQHLMOIPRQSCQAIHNVH 181  
 QY 174 NVVHAIIHQOQKQOQSPSSQVSPFQPLQYPLQGSFRPQQNPQAGSVQPPQLPQFE 233  
 Db 182 NVVHAIIHQOQKQOQSPSSQVSPFQPLQYPLQGSFRPQQNPQAGSVQPPQLPQFE 241  
 QY 234 EIRNLALQTLPMQCNVYIAPYCTIAPFGIFGTN 266  
 Db 242 EIRNLALQTLPMQCNVYIAPYCTIAPFGIFGTN 274  
 RESULT 10  
 Q41531 PRELIMINARY; PRT; 289 AA.  
 ID Q41531;  
 AC Q41531;  
 DT 01-NOV-1996 (TREMBLrel. 01, Created)  
 DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)  
 DT 01-MAR-2004 (TREMBLrel. 26, Last annotation update)  
 DE Alpha-glialdin storage protein.  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticeae; Triticum.  
 OC NCBI\_Taxid=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Cheyenne;  
 RA Anderson O.D.;  
 RL Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; U51306; AAA9524.1; -  
 DR PIR; S13333; S13333.  
 DR GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DR InterPro; IPR003612; AAI.  
 DR InterPro; IPR001376; Glia\_glutenin.  
 DR InterPro; IPR001954; Glia\_glutenin.  
 DR Pfam; PF00234; Tryp\_alpha\_amy1; 1.

DR PRINTS; PR00208; GLIADGLUTEN.  
 DR PRINTS; PR00209; GLIADIN.  
 DR SMART; SM00499; AAI; 1.  
 DR SEQUENCE 289 AA; 33349 MW; 5F577C9CD63874FA CRC64;  
 SQ  
 Query Match 93.2%; Score 1336.5; DB 2; Length 289;  
 Best Local Similarity 94.1%; Pred. No. 1.1e-73;  
 Matches 253; Conservative 1; Mismatches 12; Indels 3; Gaps 1;  
 QY 1 VRVVPOLQPNPSSQSQPQEQVPLVQOQOQFPGQOQOFPFPQPPYQPPFPSSQCPYLQLP 60  
 Db 21 VRVVPOLQPNPSSQSQPQEQVPLVQOQOQFPGQOQOFPFPQPPYQPPFPSSQCPYLQLP 80  
 QY 61 FPQPHLPYPPQSPFPQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPY 117  
 Db 81 FPQPHLPYPPQSPFPQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPY 140  
 QY 118 ILQQLIPCMQDVLLQCHNINHARSQVLOQSTYQLQELCCQHLMOIPRQSCQAIHNVH 177  
 Db 141 ILQQLIPCMQDVLLQCHNINHARSQVLOQSTYQLQELCCQHLMOIPRQSCQAIHNVH 200  
 QY 178 AIIHQOQKQOQSPSSQVSPFQPLQYPLQGSFRPQQNPQAGSVQPPQLPQFEIRN 237  
 Db 201 AIIHQOQKQOQSPSSQVSPFQPLQYPLQGSFRPQQNPQAGSVQPPQLPQFEIRN 260  
 QY 238 LALQTLPMQCNVYIAPYCTIAPFGIFGTN 266  
 Db 261 LALQTLPMQCNVYIAPYCTIAPFGIFGTN 289  
 RESULT 11  
 Q5M4L9 PRELIMINARY; PRT; 270 AA.  
 ID Q5M4L9;  
 AC Q5M4L9;  
 DT 01-OCT-2000 (TREMBLrel. 15, Created)  
 DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
 DT 01-MAR-2004 (TREMBLrel. 26, Last annotation update)  
 DE Alpha-glialdin.  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticeae; Triticum.  
 OC NCBI\_Taxid=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Mjocelner; TISSUE=Endosperm;  
 RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,  
 RA Scollid L.M.;  
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; AJ133609; CAB76961.1; -  
 DR GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DR InterPro; IPR003612; AAI.  
 DR InterPro; IPR001376; Glia\_glutenin.  
 DR InterPro; IPR001954; Glia\_glutenin.  
 DR Pfam; PF00234; Tryp\_alpha\_amy1; 1.  
 DR PRINTS; PR00208; GLIADGLUTEN.  
 DR PRINTS; PR00209; GLIADIN.  
 DR SMART; SM00499; AAI; 1.  
 DR CHAIN 1  
 FT SEQUENCE 270 AA; 31491 MW; 1DB4B6528EFD5 CRC64;  
 SQ  
 Query Match 92.7%; Score 1329.5; DB 2; Length 270;  
 Best Local Similarity 94.0%; Pred. No. 2.6e-73;  
 Matches 251; Conservative 3; Mismatches 12; Indels 1; Gaps 1;  
 QY 1 VRVVPOLQPNPSSQSQPQEQVPLVQOQOQFPGQOQOFPFPQPPYQPPFPSSQCPYLQLP 60  
 Db 2 VRVVPOLQPNPSSQSQPQEQVPLVQOQOQFPGQOQOFPFPQPPYQPPFPSSQCPYLQLP 61  
 QY 61 FPQPHLPYPPQSPFPQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPY 119  
 Db 62 FPQPHLPYPPQSPFPQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPYQPPY 121





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## OM protein - protein search, using sw model

Run on: December 14, 2004, 17:00:05 : Search time 76.6667 Seconds  
(without alignments)

1244.635 Million cell updates/sec

Title: US-10-089-700-3-K65  
Perfect score: 1431  
Sequence: 1 VRYVPQLQPNPSQCCPQF.....CNVYIAPYCTIAPFGIFGTN 266

Scoring table: BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 2002273 seqs, 358729299 residues

Total number of hits satisfying chosen parameters: 2002273

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%

Listing first 45 summaries

Database : A\_Geneseq\_23Sep04.\*

1: geneeqp1980s.\*  
2: geneeqp1990s.\*  
3: geneeqp2000s.\*  
4: geneeqp2001s.\*  
5: geneeqp2002s.\*  
6: geneeqp2003as.\*  
7: geneeqp2003bs.\*  
8: geneeqp2004s.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1427	99.7	266	4	AAU01799 Wheat A-G
2	1427	99.7	266	4	ADH14513 A-glialdin
3	1267.5	88.6	290	7	AAE38574 Wheat alp
4	1267.5	88.6	290	8	ADP19626 Alpha-2-g
5	464	32.4	369	8	AAW62647 Macure du
6	450.5	31.5	297	8	AD071669 Amno aci
7	440.5	30.8	307	7	ADH89338 T. aestiv
8	440.5	30.8	307	7	ADG44134 T. aestiv
9	437.5	30.6	298	8	AD071661 Amno aci
10	287.5	20.1	1798	4	ABB71695 Drosophil
11	271	18.9	2285	4	ABB63057 Drosophil
12	270	18.9	1162	3	AAV96855 Kaposi's
13	270	18.9	1162	3	AAV58800 HHV8 ORF
14	270	18.9	1162	3	AAV58800 HHV8 ORF
15	270	18.9	1162	3	AAV58800 HHV8 ORF
16	270	18.9	1162	3	AAV58800 HHV8 ORF
17	266.5	18.6	1069	6	ABO07138 Human nuc
18	266.5	18.6	1069	6	ADH89336 H. vulgar
19	266.5	18.6	1069	6	ADG44132 H. vulgar
20	255	17.8	260	8	AD047673 Amno aci
21	255	17.8	260	8	ADG44132 H. vulgar
22	251	17.5	905	6	ABG93053 S. cerevi
23	251	17.5	905	6	ABR51330 Protein e
24	251	17.5	905	6	ADG62564 Disease t
25	251	17.5	905	6	ADG62564 Disease t

## ALIGNMENTS

RESULT 1	AAU01799	standard; protein; 266 AA.
ID	AAU01799	standard; protein; 266 AA.
AC	AAU01799;	
XX		
DT	07-SEP-2001	(first entry)
XX		
DE	Wheat A-glialdin.	
XX		
KM	Wheat; A-glialdin; epitope; coeliac disease; gluten intolerance;	
KW	T-cell binding; antagonist; transglutaminase; transgenic plant.	
XX		
OS	Triticum aestivum.	
XX		
PN	WO200125793-A2.	
XX		
PD	12-APR-2001.	
XX		
PP	02-OCT-2000; 2000MO-GB003760.	
XX		
PR	01-OCT-1999; 99GB-00023306.	
XX		
PA	(ISIS-) ISIS INNOVATION LTD.	
XX		
PI	Anderson RP, Hill AVS, Jewell DP;	
XX		
DR	WPI; 2001-300179/31.	
XX		
PT	Diagnosing coeliac disease or susceptibility to the disease in an	
PT	individual, by detecting in vitro or in vivo T cells which bind	
PT	immunodominant T cell epitope obtained from naturally occurring homolog	
PT	of gliadin.	
XX		
PS	Claim 1; Page 52; 107pp; English.	
XX		
CC	The sequence represents wheat A-glialdin. A-glialdin derived peptides of	Abb62018 Drosophil
CC	the invention are used to test mammalian (preferably human)	Abb71039 Drosophil
CC	susceptibility to coeliac disease (gluten intolerance). The peptides are	Abb65556 Human pro
CC	contacted with a blood sample and T cell recognition measured, a positive	Abb61305 Drosophil
CC	T-cell recognition indicating a susceptibility to coeliac disease. The	Adc07968 Rice prot
CC	peptides are useful for inducing tolerance in an individual and	Adh89335 H. vulgar
CC	antagonists to the peptides are useful for treating or preventing coeliac	Adg44131 H. vulgar
CC	disease in an individual and for producing an antibody specific to them	Abb59512 Drosophil
CC	or a wild-type sequence. A mutant gliadin protein (or its fragment of 15	Abb70004 Larval vi
CC	amino acids in length) whose wild-type sequence can be modified by	Abb54568 A synthe
CC	transglutaminase to a sequence that comprises the epitope, but which has	Abb61650 Drosophil
CC	been modified in such a way that it does not contain sequence which can	Abb93140 S. cerevi
		AAV69495 Amno aci
		Abb70377 Drosophil
		ADP98983 C. albica
		Abb63167 Drosophil
		AAV81609 Streptoco

be modified by transglutaminase to a sequence that comprise the epitope  
is useful for decreasing the ability of gliadin protein to cause Coeliac  
disease. Nucleic acids encoding proteins antagonistic to the T-cell  
binding of the epitopes are useful for obtaining a transgenic plant cell  
or seed and for the production of a protein. The resultant crop plant is  
useful for obtaining a product of a wheat plant, especially grain, which  
is optionally processed into flour or another grain product. Food  
comprising the antagonistic protein is useful instead of a wild-type  
gliadin

Sequence 266 AA:

Query Match 99.7%; Score 1427; DB 4; Length 266;  
Best Local Similarity 99.6%; Pred. No. 7.8e-115;  
Matches 265; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 VRVPVQLPQPNSSQGGPQGVPLVQGGPQGGQGGPFPQGPYPQGPFPSSQGPYLQGP 60  
DB 1 VRVPVQLPQPNSSQGGPQGVPLVQGGPQGGQGGPFPQGPYPQGPFPSSQGPYLQGP 60  
QY 61 FPGPKLPYPPQPSFPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGP 120  
DB 61 FPGPKLPYPPQPSFPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGP 120  
QY 121 QQLIPCMQDVYLQGHNTAHARSQVLCQSTYQLDELCCQHLMQIPESQCCOALHNVVHAII 180  
DB 121 QQLIPCMQDVYLQGHNTAHARSQVLCQSTYQLDELCCQHLMQIPESQCCOALHNVVHAII 180  
QY 181 LHQQKQKQGGPSSQGVSPQGLQGYPLGGGSFRPSQGNPQAQGSVQGPQLPQFEIRNLAL 240  
DB 181 LHQQKQKQGGPSSQGVSPQGLQGYPLGGGSFRPSQGNPQAQGSVQGPQLPQFEIRNLAL 240  
QY 241 QTLPMCMNVYIAPYCTIAPPGIFGTN 266  
DB 241 QTLPMCMNVYIAPYCTIAPPGIFGTN 266

RESULT 2

ADH14513 standard; protein; 266 AA.

ADH14513

11-MAR-2004 (first entry)

A-gliadin protein sequence SEQ ID NO:3.

coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;

Synthetic.

WO2003104273-A2.

18-DEC-2003.

05-JUN-2003; 2003WO-GB002450.

05-JUN-2002; 2002GB-00012885.

(ISIS-) ISIS INNOVATION LTD.

Anderson RP, Hill AVS, Jewell DP;

WPI; 2004-043640/04.

Preventing or treating coeliac disease comprises administering agent  
which are wheat gliadin T cell epitope capable of being recognized by T  
cell receptor.

Example 1; SEQ ID NO 3; 177pp; English.

The present invention describes a method (M1) for preventing or treating

coeliac disease. M1 comprises administering an agent (A) comprising a  
gliadin T cell epitope, which is capable of being recognised by a T cell  
receptor, to an individual. Gliadin is a component of gluten. (A) has  
gastrointestinal activity, and can be used in vaccines. The agent (A) can  
be used in the preparation of a medicament for treating or preventing  
coeliac disease. (A) can also be used in the preparation of a diagnostic  
means for use in diagnosing coeliac disease, or susceptibility to coeliac  
disease, in an individual, which involves determining whether T cells of  
the individual recognise the agent, recognition by the T cells indicating  
that the individual has, or is susceptible to, coeliac disease. The  
present sequence represents a protein which is used in the  
exemplification of the present invention.

Sequence 266 AA:

Query Match 99.7%; Score 1427; DB 8; Length 266;  
Best Local Similarity 99.6%; Pred. No. 7.8e-115;  
Matches 265; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 VRVPVQLPQPNSSQGGPQGVPLVQGGPQGGQGGPFPQGPYPQGPFPSSQGPYLQGP 60  
DB 1 VRVPVQLPQPNSSQGGPQGVPLVQGGPQGGQGGPFPQGPYPQGPFPSSQGPYLQGP 60  
QY 61 FPGPKLPYPPQPSFPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGP 120  
DB 61 FPGPKLPYPPQPSFPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGPYPQGP 120  
QY 121 QQLIPCMQDVYLQGHNTAHARSQVLCQSTYQLDELCCQHLMQIPESQCCOALHNVVHAII 180  
DB 121 QQLIPCMQDVYLQGHNTAHARSQVLCQSTYQLDELCCQHLMQIPESQCCOALHNVVHAII 180  
QY 181 LHQQKQKQGGPSSQGVSPQGLQGYPLGGGSFRPSQGNPQAQGSVQGPQLPQFEIRNLAL 240  
DB 181 LHQQKQKQGGPSSQGVSPQGLQGYPLGGGSFRPSQGNPQAQGSVQGPQLPQFEIRNLAL 240  
QY 241 QTLPMCMNVYIAPYCTIAPPGIFGTN 266  
DB 241 QTLPMCMNVYIAPYCTIAPPGIFGTN 266

RESULT 3

AAE38574 standard; protein; 290 AA.

AAE38574

04-DEC-2003 (first entry)

Wheat alpha-2 gliadin protein.

Wheat; therapy; celiac sprue; dermatitis herpetiformis; gluten toxicity;

glutenase; foodstuff; antiinflammatory; dermatological; alpha-2 gliadin.

Triticum aestivum.

WO2003068170-A2.

21-AUG-2003.

14-FEB-2003; 2003WO-US004743.

14-FEB-2002; 2002US-0357238P.

14-MAY-2002; 2002US-0380761P.

28-JUN-2002; 2002US-0392782P.

31-OCT-2002; 2002US-0422933P.

20-NOV-2002; 2002US-0428033P.

20-DEC-2002; 2002US-0435881P.

(STRD) UNIV LELAND STANFORD JUNIOR.

Hausch F, Gray G, Shan L, Khosla C;

WPI; 2003-697466/66.

XX	Treating celiac sprue and/or dermatitis herpetiformis comprises
PT	administering to a patient a dose of a glutenase that attenuates gluten
PT	toxicity in the patient.
PS	
XX	Example 2; Fig 4; 69pp; English.
CC	The present invention relates to a method for treating celiac sprue
CC	and/or dermatitis herpetiformis. The method involves administering to a
CC	patient a dose of a glutenase that attenuates gluten toxicity in the
CC	patient. The method is also useful in treating a foodstuff to render the
CC	foodstuff less toxic to a celiac sprue patient. The present sequence is
CC	wheat alpha-2 gliadin protein used to illustrate the method of the
CC	invention
XX	
SQ	Sequence 290 AA;
XX	
Query Match	88.6%; Score 1267.5; DB 7; Length 290;
Best Local Similarity	84.7%; Pred.No. 4,8e-101;
Matches 243; Conservative	9; Mismatches 14; Indels 21; Gaps 3
Dn	1 VAVPVPOLQPQPPSQQQPQEAGVPLVQOQQCFPGQQQCFPPQCPYPQPQPFPPSQPYLQLQP 60
Qy	2 VAVPVPOLQPQPPSQQQPQEAGVPLVQOQQCFPGQQQCFPPQCPYPQPQPFPPSQPYLQLQP 61
Dn	61 F-----PQKLPYPPQSPFPFPQPPYPPQPPQPPQPPISQQQAQQQQQQQ 105
Qy	62 FPQPLPYPPQPLPYPPQPLPYPPQPPFPFPQPPQPPQPPQPPISQQQAQQQQQQQ 121
Dn	106 --QQQQQQQQQILQILIQQLIFCMVVYLQNHNIHARSGVLQSTYTOLLQECCHLMQI 163
Qy	122 QKQQQQQQQQQILQILIQQLIFCRDVLVQHSHIAYGSSGVLAQSITLVQLCCQQLMQI 181
Dn	164 PQQSQCOAIHNVAIIHLH----QQQKQQQCSPSQQVSFQQPLQQYPLGGSFRRSQQNPD 219
Qy	182 PQQSQCOAHNVHAIIHLHQQQQQQQQQQQQQQPLSQVSSFQQPQQQYRSQGGSHPQSQNQD 241
Dn	220 AOGSVQPPQPLPQFEIRNLALQTLPAMCNVYIAPYCTIAPFGIGFN 266
Qy	242 AOGSVQPPQPLPQFEIRNLALETLPAMCNVYIIPYCTIAPVGIFGN 288
PT	
PT	RESULT 4
ADP19626	ADP19626 standard; protein; 290 AA.
XX	
AC	ADP19626;
XX	
DT	26-AUG-2004 (first entry)
XX	
DE	Alpha-2-gliadin protein, SEQ ID 28.
XX	
XX	Gluten; Celiac Sprue; wheat; gliadin; alpha-2-gliadin.
OS	Triticum aestivum.
XX	
PN	WO2004045392-A2.
XX	
PD	03-JUN-2004.
XX	
PF	20-NOV-2003; 2003WO-US037434.
XX	
PR	20-NOV-2002; 2002US-0428033P.
PA	(STRD) UNIV LELAND STANFORD JUNIOR.
PI	Khosla C, Shan L;
XX	
DR	WPI; 2004-460460/43.
PT	New gluten oligopeptides, useful for diagnosing Celiac Sprue, in
PT	diagnostic assays for detecting antibodies against such oligopeptides, or
PT	for producing antibodies that bind specifically to such oligopeptides.

**Example 2; Fig 4; 50bp; English.**

The present invention relates to novel purified gluten oligopeptides. The gluten oligopeptides comprise multiple T cell or B cell epitopes (ADP19608, ADP19616-ADP19623). The gluten oligopeptides are useful in stimulating T cells from Celiac Sprue patients for diagnostic purposes, in diagnostic assays for detecting antibodies against such oligopeptides, or for producing antibodies that bind specifically to such oligopeptides. The present sequence was used to illustrate the invention.

Sequence 290 AA;

Query Match	88.6%;	Score 1267.5;	DB 8;	Length 290;
Best Local Similarity	84.7%;	Pred. No. 4.8e-101;		
Matches 243;	Conservative	9;	Mismatches 14;	Indels 21; Gaps 3

QY 1 VRPVVQLDQPNSSQQQPEQVEVLVQQQDPFGQQQDPFPQQPYQPQPFPSQQPYLQLCP 60  
|||  
Db 2 VRVVPVQLQPNSSQQQPEQVEVLVQQQDPFGQQQDPFPQQPYQPQPFPSQQPYLQLCP 61  
|||  
QY 61 F-----FQPLPYPCQSPFPQQPYQPQPOQYSQPQDISQQQAQQQQQQ- 105  
|||  
Db 62 FPGPQLPYPPQQLPYPPQQLPYPPQQLPYPPQQLPYPPQQLPYPPQQLPYPPQQLPYPPQ 121  
|||  
QY 106 --QQQQQQQQLLQQLLLQGLIPCMNVLTQHNIHARQVTCSTYQLLGELCCGHLMQI 163  
|||  
Db 122 QKQQQQQQQQLLQQLLLQGLIPCMNVLTQHNIHARQVTCSTYQLLGELCCGHLMQI 181  
|||  
QY 164 PEGSCCAHNHVHAIIILH----OQKQQQCPSSQVSFCPLQGYPLQGSGFRPSQQNPQ 219  
|||  
Db 182 PEGSRCAHNHVHAIIILHQQQQQQQQQQQQCPLSQVSFGQYQYPSSQGSFGQSQQNPQ 241  
|||  
QY 220 AAGSVCPQQLPQFEIRINALETLPMCMNVITAPCTTAPGIGFTN 266  
|||  
Db 242 AAGSVCPQQLPQFEIRINALETLPMCMNVITAPCTTAPGIGFTN 288  
|||

RESULT 5  
AAM62647  
ID AAM62647 standard; protein; 369 AA.  
XX  
XX AAM62647;  
XX  
DT 17-OCT-2003 (revised)  
DT 25-MAR-2003 (revised)  
DT 09-OCT-1998 (first entry)  
XX  
XX Mature durum wheat glutenin protein.  
XX  
XX Glutinin gene; durum wheat; low-molecular-weight; transgenic durum wheat  
XX  
OS Triticum turgidum subsp. durum.  
XX  
PN FR2757538-A1.  
XX  
PD 26-JUN-1998.  
XX  
PF 18-DEC-1997; 97FR-00016059.  
XX  
PR 19-DEC-1996; 96IT-MI002663.  
XX  
PA (ITU-) ITAL MIN UNIT RICECA SCI E TECNOLOGICA.  
XX  
PI D Ovidior, Porceddu E, Marchitelli C, Cardelli LE;  
XX  
XX WPI, 1998-365055/32.  
XX  
DR N-PSDB; AAV38816.  
XX  
PT Durum wheat glutenin gene - coding for glutenin protein of low molecular  
weight.  
XX  
PS Claim 8; Page 14; 18pp; French.

XX The present sequence represents the mature glutenin protein. The DNA  
 CC sequence encoding this protein is isolated from the genomic DNA of  
 CC Triticum durum L. The gene codes for a low-molecular-weight glutenin  
 CC protein and can be used to produce transgenic durum wheat plants with  
 CC better quality characteristics (no details given) (updated on 25-MAR-  
 CC 2003 to correct PL field.) (updated on 17-OCT-2003 to standardise OS  
 CC field)

XX Sequence 369 AA;

Query Match 32.4%; Score 464; DB 2; Length 369;  
 Best Local Similarity 40.2%; Pred No. 1.2e-31;

Matches 134; Conservative 32; Mismatches 87; Indels 80; Gaps 14;

XX 6 PQLQPNPSCQGP-----QEOVLVQGGQPPGQGGQFP--EQGPYQPPF-----50  
 DB PQQPCCSQGGQPPPLSQGGQPPFSQGGQPPVLPQGPFSQGGQLPPFSQGGQPP 97  
 QY 51 ---SQGPV-----QLQPPQKLFYPPQSPFPQ-----PYPPQPPQYSQ 89  
 DB PQSQGGQPPVLPQGPFSQGGQLPPFSQGGQLPPFSQGGQLPPFSQGGQLPPFSQ 157  
 QY 90 PQQPISQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGG 132  
 DB PQQPPLPQGPFSQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGG 216  
 QY 133 QH-----NIAHRSQVLAQSTYQLLQELCCGHLMOIPRQSCQALHNVHAILHMOQK 186  
 DB PQQSPWAMPQSLARSGMLQSSCHWQGGCCQQLPQIPQSSRYEALFVYSIL--QEQ 274  
 QY 187 QQQQPSQVSPQGPPLQGVLPQGGSPFPSSQGNPQAGS-----VQPPQLPQFEE 234  
 DB QGVQSSIQVQGGQPPQ---LGGCVSQPQGGSQGGQGGQGGQGGQGGQGGQGGQGG 331

QY 235 IENLALQTLPMACNVYIAPY--CTAPPGIFET 265  
 DB 332 MTSIALRILPTMCNMVPLRYRTTRVPFGV--GT 363

RESULT 6  
 ADO71669  
 ID ADO71669 standard; protein; 297 AA.

XX AD071669;  
 AC  
 XX

DT 12-AUG-2004 (first entry)

XX Amino acid sequence of a modified glutenin LMW subunit.

XX low molecular weight subunit; LMW subunit; glutenin;  
 KW wheat cultivar Cheyenne; gliadin; flour; tablet; celiac disease;  
 XX gluten intolerance.

OS Triticum sp.  
 OS Synthetic.

PN EP1424342-A1.

PD 02-JUN-2004.

PF 27-NOV-2002; 2002EP-00026461.

XX 27-NOV-2002; 2002EP-00026461.

XX (BAKE-) BAKEMARK DEUT GMBH.  
 PA (MONSANTO AGRAR DEUT GMBH.  
 PA (UNIF-) UNIFERN GMBH & CO KG.  
 PA (PURA-) PURATOS NV.

XX  
 XX  
 XX

PI Hinemann E, Wieser H, Stahl U;  
 DR WPI, 2004-402870/38.

DR N-PSDE; ADO71669.  
 XX Novel nucleic acid comprising sequence encoding modified glutenin  
 PT polypeptide, useful for preparing modified glutenin polypeptide as  
 PT gliadin substitute in foodstuffs such as dough, pastries and waters.  
 XX  
 XX Claim 16; Fig 11; 43pp; English.

XX The present sequence represents a modified low molecular weight (LMW)  
 CC subunit of glutenin. The wild type subunit is designated clone LMW6, and  
 CC is isolated from wheat cultivar Cheyenne. The LMW6 polypeptide does not  
 CC contain the allergenic epitope QQQPP, and shows some minor differences to  
 CC published sequences. It therefore represents a new allele for LMW subunit  
 CC genes. The LMW6 polypeptide was modified to produce modified glutenin  
 CC polypeptides of the invention. In these modified polypeptides one or more  
 CC cysteine residues responsible for intermolecular cross linking through  
 CC disulfide bridges are deleted or substituted. The modified glutenin  
 CC polypeptide is useful as a gliadin substitute. It is also useful in the  
 CC preparation of foodstuffs, such as flour or for the preparation of  
 CC pharmaceutical products, such as tablets, where the foodstuffs contain a  
 CC considerably reduced amount of gliadin proteins or no gliadin proteins.  
 CC Pharmaceutical compositions comprising the modified polypeptide of the  
 CC invention are useful for treating patients suffering from celiac disease  
 CC or persons who are intolerant to gluten.

XX Sequence 297 AA;

Query Match 31.5%; Score 450.5; DB 8; Length 297;  
 Best Local Similarity 41.2%; Pred No. 1.3e-30;

Matches 120; Conservative 38; Mismatches 82; Indels 51; Gaps 13;

QY 5 VPQLQPNPSCQGPFOGVPLVQGGQPPGQGGQPPQPPYPPQPPFSQGGQPPQLPFG 63  
 DB 18 IAGVETIFGLERPMQGGQLQGGKTFPP---QQPPSSQ---QQQPPQGPPLQGGQPPFSQ 71  
 QY 64 PLPLPYPPQSPFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 116  
 DB 72 -----QPLFSQGGQPPVLPQGPFSQGGQGGQGGQGGQGGQGGQGGQGGQGG 125  
 QY 117 QI-----LQQQLIPGMDVVLQGGQNTIAHRSQVLAQSTYQLLQELCCGHLMOIPRQSCQ 170  
 DB 126 QINPCKVFLQGG---CSPVAMPQH---LARSQWQGGSSGNWQGGCCQQLPRIPQSSRYE 179  
 QY 171 AIHNVHAILHMOQK-----QQQPPSSQV--STQGPFLQ--QVPLGGGSP-----RP 213  
 DB 180 AIFAILPFSIILQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGGQGG 239  
 QY 214 SQGNPQAGSVQPPQPPQPPFERNLALQTLPMACNVYIAPYCTI--APPGI 262  
 DB 240 QQQQVQXGTFPLQGHQIARLEWMTSIALRILPTMCNSVNVPLYSITAPLGV 290

RESULT 7  
 ADH89338  
 ID ADH89338 standard; protein; 307 AA.

XX ADH89338;  
 AC  
 XX

DT 06-MAY-2004 (first entry)

XX T. aestivum LMW glutenin-1D1 protein.

XX double stranded RNA; storage protein; 2S-albumen; 7S-globulin;  
 KW 11S/12S-globulin; zein-prolamine; homogenisate; metabolic pathway;  
 KW pharmaceutical; plant; abiotic stress; fatty acid composition; colour;  
 KW lipid composition; oil composition; carbohydrate composition; colour;  
 KW pigmentation; pathogen resistance; fruit ripening delay; aging;  
 KW male sterility; lignin; fibre; cotton; Vitamin E synthesis; nicotine;  
 KW caffeine; theophylline; threonine biosynthesis; glutennin.

XX Triticum aestivum.  
 OS  
 XX

PN WO2003078629-A1.







DR N-PSDB; ABL15798.

PT New isolated nucleic acid detection reagent for detecting 1000 or more  
PT genes from Drosophila and for elucidating cell signaling and cell-cell  
PT interactions.

PS Disclosure; SEQ ID NO 41877; 21pp + Sequence Listing; English.

XX The invention relates to an isolated nucleic acid detection reagent  
CC capable of detecting 1000 or more genes from Drosophila. The invention is  
CC useful in developmental biology and in elucidating cell signaling and  
CC cell-cell interactions in higher eukaryotes for the development of  
CC insecticides, therapeutics and pharmaceutical drugs. The invention  
CC discloses genomic DNA sequences (AB16176-AB130511), expressed DNA  
CC sequences (AB101840-AB16175) and the encoded proteins (AB57737-  
CC AB572072). The sequence data for this patent did not form part of the  
CC printed specification, but was obtained in electronic format directly  
CC from WIPO at ftp.wipo.int/pub/published\_pct\_sequences

XX Sequence 1798 AA;

Query Match 20.1%; Score 287.5; DB 4; Length 1798;

Best Local Similarity 37.3%; Pred. No. 1.2e-15;

Matches 100; Conservative 19; Mismatches 92; Indels 57; Gaps 12;

QY 3 VPVPLQPPNP-SQQQPOEVLVQ-----QQQPPGQQQPPPPQ 41

DB 264 VGGATGPGQSFSSQKPIDPTDPVQAVLSRALSNSQDLMRQQLKQQQQMQQQQ 323

QY 42 PYPGPPPP-SQQPLTGQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 96

DB 334 MAPGQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 381

QY 97 QQAQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 152

DB 382 QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 440

QY 153 QELCCGHLMOIPBEGSCCAHNVVHAITLHQQXQQQQQSSQVFPQPLQYPLGGGSR 212

DB 441 -----ALQKQQQ-----LLHVQQAQQQPPQQQQITVQQLPFAQQQQQL 480

QY 213 FSGQNPQAQGVQPPQLPQFEIRIAL 240

DB 481 PQGHVQQQ--QPGQV-QFTQQQIAL 504

RESULT 11

ABB63057 standard; protein; 2285 AA.

AC ABB63057;

DT 26-MAR-2002 (first entry)

DE Drosophila melanogaster polypeptide SEQ ID NO 15963.

KW Drosophila; developmental biology; cell signalling; insecticide;

KW pharmaceutical.

OS Drosophila melanogaster.

XX WO200171042-A2.

PD 27-SEP-2001.

PF 23-MAR-2001; 2001WO-US009231.

PR 23-MAR-2000; 2000US-0191637P.

PA 11-UTL-2000; 2000US-00614150.

XX (PEKE ) PE CORP NY.

PI Venter JC, Adams M, Li FWD, Myers EW;

XX WPI; 2001-656660/75.

DR N-PSDB; ABL07160.

PT New isolated nucleic acid detection reagent for detecting 1000 or more  
PT genes from Drosophila and for elucidating cell signaling and cell-cell  
PT interactions.

PS Disclosure; SEQ ID NO 15963; 21pp + Sequence Listing; English.

XX The invention relates to an isolated nucleic acid detection reagent  
CC capable of detecting 1000 or more genes from Drosophila. The invention is  
CC useful in developmental biology and in elucidating cell signaling and  
CC cell-cell interactions in higher eukaryotes for the development of  
CC insecticides, therapeutics and pharmaceutical drugs. The invention  
CC discloses genomic DNA sequences (AB16176-AB130511), expressed DNA  
CC sequences (AB101840-AB16175) and the encoded proteins (AB57737-  
CC AB572072). The sequence data for this patent did not form part of the  
CC printed specification, but was obtained in electronic format directly  
CC from WIPO at ftp.wipo.int/pub/published\_pct\_sequences

XX Sequence 2285 AA;

Query Match 18.9%; Score 271; DB 4; Length 2285;

Best Local Similarity 35.7%; Pred. No. 4e-14;

Matches 101; Conservative 14; Mismatches 104; Indels 64; Gaps 13;

QY 7 QLOPPNP-----SQQQPOEVLVQQQQPPGQQQPPPPPPPPPPPPPPPPPP 54

DB 909 QMQQQPPVAVATVAVHGVMPQQV--QQQQPPQMQQIPQVQVQPPVLPQPPHQQP 966

QY 55 YLQQLPPPP-----PKLPYPPQSPPPPPPPPPPPPPPPPPPPPPPPPPPP 99

DB 967 QQQQQPQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 1024

QY 100 QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ 153

DB 1025 QQAQQQQQLSPPLQIQQLILQQQVAVSHQQQIMQQLAQHQQLQQLQQLQQLQ 1084

QY 154 ELCCGHLMOIPBEGSCCAHNVVHAITLHQQXQQQQQSSQV---SQQPLQ---QY 204

DB 1085 QIQQQQLQQQQLQQQ-QFVQGYAQA--MPQCHQQLVTGSGQVAPFHQCCPDIPIVQM 1141

QY 205 PL-----GQGSFRSPQNPQAQGVQPPQPLQ 232

DB 1142 PPTSVAPPIQHTVAVQGGQVTLSDAQQQQHPGSAVPAQAPF 1184

RESULT 12

AA96255 standard; protein; 1162 AA.

AC AA96255;

DT 12-SEP-2003 (revised)

DT 11-SEP-2000 (first entry)

DE Kaposi's sarcoma-associated herpesvirus LANA.

KW Kaposi's sarcoma-associated herpesvirus; KSHV; rhadino virus;

KW latency-associated nuclear antigen; LANA; gamma-2 herpes virus;

KW Human herpes virus 8; HHV8; rhadino virus cis-acting element; KVCAB;

KW Kaposi's sarcoma; primary effusion lymphoma; PEL;

KW human immunodeficiency virus; HIV; multicentric Castlemann's disease.

XX Human herpesvirus 8.

XX Key

FT Domain 14..17 location/Qualifiers

FT Domain /note="nuclear localisation signal, NLS"

FT Domain 64..70

FT /note="nuclear localisation signal, NLS"

FT Region 320..429





CC (S2) as a cis-acting and maintenance sequence in the DNA. (A) is  
CC particularly used in gene therapy (or other gene transfer applications)  
CC that uses mammalian cells in which LANA is expressed. (A) improves  
CC persistence of gene therapy vectors in cells. The present sequence  
CC represents Kaposi's sarcoma-associated herpesvirus (KSHV, also called  
CC human herpesvirus 8) LANA protein, which is used in the exemplification  
CC of the present invention

XX  
SQ Sequence 1162 AA:

Query Match 18.9%; Score 270; DB 5; Length 1162;

Best Local Similarity 38.0%; Pred. No. 2.3e-14;  
Matches 93; Conservative 20; Mismatches 100; Indels 32; Gaps 10;

```
4 PVPOLPQNPSQQQPPQEQVPLVQ--QQCPFGQ--QCFPPQCPYPQPPFPSPQPPYLQ 59
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB PLOPQQEQEPQQEQEPQQEQEPQQEQEPQQEQEPQQEQEPQQEQEPQQEQEPQQEQEP 553
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY P--FPQPKLPY---PQ---PQSFPPQCPYPQF-QPYQSPPQPPISQQQAQQQQQQQQQ 109
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB PQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQ 613
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY QQQQILQQQLIPQMDVTLQHNIAHRSQVLAQSTYQLQLCCCHLMQIPQSSQC 169
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB EQQDEQQQDEQQ---QDEQQQDEQQQDEQQQDEQQQDEQQQDE---QQQDEQQQD 663
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY QAIHNVVHAIIHQKKKQQQSSQVSFOQPIQQYPLQGSFRPSQNPQAQGSVQPPQL 229
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB EQQD-----EQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQDEQQDEQQD 716
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
QY PQPES 234
: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :
DB EQQD 721
```

Search completed: December 14, 2004, 17:17:27  
Job time : 77.6667 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 14, 2004, 17:06:20 ; Search time 19 Seconds  
(without alignments)  
928.452 Million cell updates/sec

Title: US-10-089-700-3-K65

Perfect score: 1431

Sequence: 1 VRVPQLQPNPSQQQPOE.....CNVYIAPYCTIAPFGIFGTN 266

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 478139 seqs, 6631800 residues

Total number of hits satisfying chosen parameters: 478139

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents, AA.\*  
1: /cg2\_6/ptodata/1/aa/5A.COMB.pep.\*  
2: /cg2\_6/ptodata/1/aa/5B.COMB.pep.\*  
3: /cg2\_6/ptodata/1/aa/6A.COMB.pep.\*  
4: /cg2\_6/ptodata/1/aa/6B.COMB.pep.\*  
5: /cg2\_6/ptodata/1/aa/PTUS.COMB.pep.\*  
6: /cg2\_6/ptodata/1/aa/backfile1.pep.\*

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	464	32.4	369	2	US-08-991-300-2
2	270	18.9	1162	2	US-08-728-333A-2
3	270	18.9	1162	3	US-09-298-568-2
4	270	18.9	1162	4	US-09-410-399-2
5	270	18.9	1162	4	US-09-899-273-2
6	249	17.4	788	2	US-08-918-914-4
7	234	16.4	256	4	US-09-248-796A-21251
8	232	16.2	498	4	US-09-270-767-45042
9	217.5	15.2	579	4	US-09-668-119-3
10	217	15.2	2074	4	US-09-491-356C-9
11	202	14.1	2023	4	US-09-491-356C-8
12	202	14.1	2124	4	US-09-538-092-1377
13	198.5	13.9	505	4	US-09-248-796A-19253
14	197.5	13.8	663	4	US-09-270-767-61220
15	197.5	13.8	1591	4	US-09-270-767-45698
16	197.5	13.8	2441	1	US-08-194-468-2
17	197.5	13.8	2441	1	US-08-961-739-2
18	197.5	13.8	2441	3	US-09-514-247A-8
19	197.5	13.8	2441	3	US-09-686-316-2
20	196.5	13.7	379	4	US-09-248-796A-23759
21	196.5	13.7	2442	3	US-09-514-247A-10
22	196.5	13.7	2442	4	US-09-538-092-1370
23	196.5	13.7	216	4	US-09-248-796A-21017
24	195.5	13.7	729	4	US-09-625-188-20
25	188	13.1	295	4	US-09-248-796A-20004
26	187.5	13.1	320	4	US-09-248-796A-24758

28	184.5	12.9	316	4	US-09-270-767-42663	Sequence 42663, A
29	184.5	12.9	332	4	US-09-248-796A-21649	Sequence 21649, A
30	184	12.9	519	4	US-09-248-796A-19263	Sequence 19263, A
31	178	12.4	382	4	US-09-248-796A-23236	Sequence 23236, A
32	178	12.4	408	4	US-09-248-796A-14480	Sequence 14480, A
33	178	12.4	1319	4	US-09-538-092-1291	Sequence 1291, Ap
34	177	12.4	261	4	US-09-602-565-34	Sequence 34, Appl
35	177	12.4	657	4	US-09-248-796A-19232	Sequence 19232, A
36	177	12.4	848	4	US-09-538-092-33	Sequence 33, Appl
37	176.5	12.3	684	4	US-09-823-240A-9	Sequence 9, Appl
38	176	12.3	518	4	US-09-248-796A-15319	Sequence 15319, A
39	174.5	12.2	382	4	US-09-248-796A-18720	Sequence 18720, A
40	173	12.1	1507	4	US-09-514-259-37	Sequence 37, Appl
41	171.5	12.0	311	4	US-09-248-796A-27827	Sequence 27827, A
42	171.5	12.0	903	2	US-08-853-310-2	Sequence 2, Appl
43	171	11.9	675	4	US-09-248-796A-20699	Sequence 20699, A
44	170.5	11.9	667	2	US-08-718-661-2	Sequence 2, Appl
45	168	11.7	2781	4	US-09-698-295-10	Sequence 10, Appl

## ALIGNMENTS

RESULT 1  
US-08-991-300-2  
Sequence 2, Application US/08991300  
Patent No. 5973225  
GENERAL INFORMATION:  
APPLICANT: D'OVIDIO, RENATO  
APPLICANT: PORCEDDU, ENRICO  
APPLICANT: MERCHETTI, CINZIA  
APPLICANT: CARDELLI, LUISA ERCOLI  
TITLE OF INVENTION: ISOLATION AND CHARACTERIZATION OF A GENE  
TITLE OF INVENTION: ENCODING A LOW MOLECULAR WEIGHT GLUTENIN  
NUMBER OF SEQUENCES: 6  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, WAIER & NEUSTADT,  
ADDRESS: P.C.  
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY  
CITY: ARLINGTON  
STATE: VA  
COUNTRY: USA  
ZIP: 22202  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/991,300  
FILING DATE: 16-DEC-1997  
CLASSIFICATION: 800  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: IT MI 96/A 002663  
FILING DATE: 19-DEC-1996  
ATTORNEY/AGENT INFORMATION:  
NAME: OBLON, NORMAN F.  
REGISTRATION NUMBER: 24,618  
REFERENCE/DOCKET NUMBER: 2,264-0201-0X  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 703-413-3000  
TELEFAX: 703-413-2220  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 369 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-991-300-2  
Query Match 32.4%; Score 464; DB 2; Length 369;  
Best Local Similarity 40.2%; Pred. No. 6,7e-35;

Matches 134; Conservative 32; Mismatches 87; Indels 80; Gaps 14;

QY 6 PQLPQNPSQQQF-----DEQVPLVQQQGFPGQQQGF--PQQPYQPQPF----- 50

Db 38 PQQPQSQQQQQPPPLSQQQQPPPSQQQPPPSQQQPPPLPQQPSSQQQLPFFSQQQPP 97

QY 51 ---SQPYL-----QLQPPQPKLPPYQPPQSTPPQ-----PYQPPQYSSQ 89

Db 98 FSCQQQPPVLPQQPSFSCQQQLPFFSQQLPFFSQQQPLPQQPFFSQQQPPFFSQQLPFFSQ 157

QY 90 PQQPISQQQAQQQQQQQQ-----QQQQQQLLQQ-----LQQQLLPCMDVYLQ 132

Db 158 QQQPVPVLPQQPSSQQQQQPPPLPQQPFFSQQQQPPVLLQQQIPVHESIQQQLNFC-KVFLQ 216

QY 133 QH-----NIHARSQVLTQSTYQLQLCCQHLWQIPESQCAIHNVVAIILHQOK 186

Db 217 QQQSPWAMPQSLARSQMLQSSQHWQCCQQLPQIPQSSRYEAIKIVSILL--QEQ 274

QY 187 QQQPSSQVSPQQPLQGYPLGGGSRPSQQNPAQGS-----VQPPQLPQEE 234

Db 275 QQQVGSITQQQQQPPQ--LQQCVSQPQQSSQQLGGQPPQQQLAHGTFLOPHQIAQLV 331

QY 235 INMLAQTLPMACNVYIAPY--CTIAPFGIFGT 265

Db 332 MTSIALRTLPMTCMNMVPLVYRTTIVPFGV--GT 363

RESULT 2

US-08-728-323A-2

Sequence 2, Application US/08728323A

Patent No. 5948676

GENERAL INFORMATION:

APPLICANT: Chang, Yuan

APPLICANT: Bohenzky, Roy A.

APPLICANT: Russo, James J.

APPLICANT: Edelman, Isidore S.

APPLICANT: Moore, Patrick S.

TITLE OF INVENTION: Immediate Early Protein From Kaposi's

TITLE OF INVENTION: Sarcoma-Associated Herpesvirus, DNA

TITLE OF INVENTION: Encoding Same And Uses Thereof

NUMBER OF SEQUENCES: 21

CORRESPONDENCE ADDRESS:

ADDRESSEE: Cooper & Dunham LLP

STREET: 1185 Avenue of the Americas

CITY: New York

STATE: New York

COUNTRY: U.S.A.

ZIP: 10036

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/728,323A

FILING DATE:

CLASSIFICATION: 435

ATTORNEY/AGENT INFORMATION:

NAME: White, John P.

REGISTRATION NUMBER: 28,678

REFERENCE/DOCKET NUMBER: 5575/52268/JPM/MSC/SKS

TELECOMMUNICATION INFORMATION:

TELEPHONE: 212-278-0400

TELEFAX: 212-391-0525

INFORMATION FOR SEQ ID NO: 2:

SEQUENCE CHARACTERISTICS:

LENGTH: 1162 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-728-323A-2

Query Match 18.9%; Score 270; DB 2; Length 1162;

Best Local Similarity 38.0%; Pred. No. 1.9e-16;

Matches 93; Conservative 20; Mismatches 100; Indels 32; Gaps 10;

QY 4 PVLQPLQNPSQQQPPQGVPLVQ--QQQPPGQ--QQPFPQPYPPQPPPSQPYLQLQ 59

Db 495 PQLPQNPSQQQPPPLSQQQQPPPSQQQPPPSQQQPPPLPQQPSSQQQLPFFSQQQPP 97

QY 60 P---FPQPKLPPY---PQ---PQSPFPQPPYPPQ--QPYSPQPPPSQQQAQQQQQQQQQQ 109

Db 554 PQQREPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 613

QY 110 QQQQQLLQQLLQQLLPCMDVYLQHNINIAHARSQVLTQSTYQLQLCCQHLWQIPESQCA 169

Db 614 EQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQD 663

QY 170 QAIHNVVAIILHQOKKQQQPPSSQVSPQQPLQGYPLGGGSRPSQQNPAQGSVQPPQL 229

Db 664 EQQD-----EQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDE 716

QY 230 PQQEE 234

Db 717 EQQD 721

RESULT 3

US-09-298-568-2

Sequence 2, Application US/09298568

Patent No. 6322792

GENERAL INFORMATION:

APPLICANT: Kieff, Elliott D.

APPLICANT: Kieff, Mary E.

APPLICANT: Kaye, Kenneth M.

TITLE OF INVENTION: RHADINO VIRUS LANA ACTS IN TRANS ON A UNIT OF RHADINO

TITLE OF INVENTION: VIRUS DNA TO MEDIATE EFFICIENT EPISOME PERSISTENCE

FILE REFERENCE: 16412-10001R

CURRENT APPLICATION NUMBER: US/09/298,568

CURRENT FILING DATE: 1999-04-21

EARLIER APPLICATION NUMBER: US 66/109,422

EARLIER FILING DATE: 1998-11-19

NUMBER OF SEQ ID NOS: 3

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 2

LENGTH: 1162

TYPE: PRT

ORGANISM: Kaposi's sarcoma-associated herpesvirus

US-09-298-568-2

Query Match 18.9%; Score 270; DB 3; Length 1162;

Best Local Similarity 38.0%; Pred. No. 1.9e-16;

Matches 93; Conservative 20; Mismatches 100; Indels 32; Gaps 10;

QY 4 PVLQPLQNPSQQQPPQGVPLVQ--QQQPPGQ--QQPFPQPYPPQPPPSQPYLQLQ 59

Db 495 PQLPQNPSQQQPPPLSQQQQPPPSQQQPPPSQQQPPPLPQQPSSQQQLPFFSQQQPP 97

QY 60 P---FPQPKLPPY---PQ---PQSPFPQPPYPPQ--QPYSPQPPPSQQQAQQQQQQQQQQ 109

Db 554 PQQREPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 613

QY 110 QQQQQLLQQLLQQLLPCMDVYLQHNINIAHARSQVLTQSTYQLQLCCQHLWQIPESQCA 169

Db 614 EQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQD 663

QY 170 QAIHNVVAIILHQOKKQQQPPSSQVSPQQPLQGYPLGGGSRPSQQNPAQGSVQPPQL 229

Db 664 EQQD-----EQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDEQQDDE 716

QY 230 PQQEE 234

Db 717 EQQD 721

RESULT 4



US-09-410-399-2  
 ; Sequence 2, Application US/09410399  
 ; Patent No. 6482587  
 ; GENERAL INFORMATION  
 ; APPLICANT: Robertson, Erle S.  
 ; APPLICANT: Cottler, Murray A.  
 ; TITLE OF INVENTION: Methods to Inhibit or Enhance the Binding of Viral DNA  
 ; FILE REFERENCE: UM-03778  
 ; CURRENT APPLICATION NUMBER: US/09/410,399  
 ; CURRENT FILING DATE: 1999-10-01  
 ; NUMBER OF SEQ ID NOS: 6  
 ; SOFTWARE: PatentIn Ver. 2.0  
 ; SEQ ID NO 2  
 ; LENGTH: 1162  
 ; TYPE: PRT  
 ; ORGANISM: Kaposi's sarcoma-associated herpesvirus  
 US-09-410-399-2

[illegible]

```

RESULT 5
US-09-894-273-2
: Sequence 2, Application US/09894273
: Patent No. 6756203
: GENERAL INFORMATION:
: APPLICANT: Kieff, Elliott D.
: APPLICANT: Ballestas, Mary E.
: APPLICANT: Kaye, Kenneth M.
: TITLE OF INVENTION: RHADINO VIRUS LANA ACTS IN TRANS ON A UNIT OF RHADINO
: TITLE OF INVENTION: VIRUS DNA TO MEDIATE EFFICIENT EPISOME PERSISTENCE
: FILE REFERENCE: 16412-10001R
: CURRENT APPLICATION NUMBER: US/09/894,273
: CURRENT FILING DATE: 2001-06-28
: PRIOR APPLICATION NUMBER: US 60/109,422
: PRIOR FILING DATE: 1998-11-19
: NUMBER OF SEQ ID NOS: 3
: SOFTWARE: PatentIn Ver. 2.10
: SEQ ID NO 2
: LENGTH: 1162
: TYPE: PRT
: ORANISM: Kaposi's sarcoma-associated herpesvirus
: US-09-894-273-2

```

Query Match	18.9%;	Score 270;	DB 4;	Length 1162;
Best Local Similarity	38.0%;	Pred. No. 1.96-16;		
Matches 93;	Conservative 20;	Mismatches 100;	Indels 32;	Gaps 10;
Qy	4	PVPQLDQNPSPQQQDQEVPLVQ--QQQFPFQQ--QQFPQQQYPPQDPPSPSQPYLQ	59	

[illegible]

RESULT 6  
 US-08-918-914-4  
 Sequence 4, Application US/08918914  
 Patent No. 5876965  
 GENERAL INFORMATION:  
 APPLICANT: Mitchell, Peter  
 APPLICANT: Hutchinson, Nancy  
 APPLICANT: Lawton, Michael  
 APPLICANT: Magna, Holly  
 APPLICANT: Yocum, Sue  
 APPLICANT: Murry, Lynn E.  
 TITLE OF INVENTION: HUMAN NUCLEOTIDE PYROPHOSPHORYLASE  
 NUMBER OF SEQUENCES: 4  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: Incyte Pharmaceuticals, Inc.  
 STREET: 3174 Porter Dr.  
 CITY: Palo Alto  
 STATE: CA  
 COUNTRY: USA  
 ZIP: 94304  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Diskette  
 COMPUTER: IBM Compatible

1  
 2 CURRENT APPLICATION DATA:  
 3 APPLICATION NUMBER: US/08/918,914  
 4 FILING DATE: Filed Herewith  
 5 PRIOR APPLICATION DATA:  
 6 APPLICATION NUMBER:  
 7 FILING DATE:  
 8 ATTORNEY/AGENT INFORMATION:  
 9 NAME: Billings, Lucy J.  
 10 REGISTRATION NUMBER: 36,749  
 11 REFERENCE/DOCKET NUMBER: PF-0369  
 12 TELECOMMUNICATION INFORMATION:  
 13 TELEPHONE: 415-855-0555  
 14 TELEFAX: 415-845-4166  
 15  
 16 TELEX:  
 17  
 18 INFORMATION FOR SEQ ID NO: 4:  
 19 SEQUENCE CHARACTERISTICS:  
 20 LENGTH: 788 amino acids  
 21 TYPE: amino acid  
 22 STRANDEDNESS: single  
 23 TOPOLOGY: linear  
 24 IMMEDIATE SOURCE:  
 25 LIBRARY: GenBank  
 26 CLONE: 1070094  
 27  
 28 US-08-918-914-4  
 29  
 30 Query Match 17.4%; Score 249; DB 2; Length 788;  
 31 Best Local Similarity 31.0%; Pred. No. 1e-14;  
 32 Matches 89; Conservative 23; Mismatches 97; Indels 78; Gaps 10

[illegible][illegible]

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Query Match: 16.2%; Score 232; DB 4; length 498;
Best Local Similarity 32.1%; Pred. No. 2.1e-13;
Matches 99; Conservative 20; Mismatches 101; Indels 88; Gaps 15

QY 6 POLQPQNP-SQQQPOEVLVQQQQFPQSQQQFPFPQPPQPPFPFSQQEYLLQ----- 57
Db 181 PFLQTATGPGQQQQQQQQQQQQQQQQQQQFQQQQQHQNIGPQQQ-----NTCPAQVTRTDNX 235

QY 58 ---LQFPFPKPIFYQPOSFPFPQFPFPQFYQFQQPISQQQAQ-----QQQQQ 105
Db 236 MQLRFGFGDFQAPSNNTS-PPQQ---QQQQQQQQQQHQVQQQQQCALQGSASPPQQQQ 291

QY 106 QQQQQQQQQQLQQQLLQQQL-----IFCMQVTVJQQSHNIARASQVLCQSTYQL 151
Db 292 QQQQQQQHVVLHVQPTQLHQALSLSPHVPQQQFQQAPLQQQHVFHHMQQKQQQ---QQ 348

QY 152 LQELCCQHLMQIPBQSQCALHNVYHAIILHQQKQQQQQSSQGV---SFQQLPQQYPLQQ 208
Db 349 LVETQHGHV-----QKQ-----HQSPQVQQCPPLQLDPSQQQPLFY----- 386

QY 203 GSGRPQQCPQA-----QGSVQPOLPQFEIRNLAL---QLPAMQNVYIAYCTI 257
Db 387 HTMPRPQTSPPVAVTSPLLQQPPQMPQVQQQQQTQLATPKREVSPAPSS-----NTT 440

QY 258 APFGIGT 265
Db 441 TPTGIASLT 448

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Page 5

Query Match	15.2%	Score 2.7	DB 4	Length 2074
Best Local Similarity	30.6%	Pred. No. 2,88-11		
Matches	87	Conservative	15	Mismatches 90
				Indels 92
				Gaps 10
QY	7	QLQPONPSQQPQOEIVPLVQQQQQPFQQQ--QQPFPPQFY-----PQPQPFPSQQFY	55	
Db	1807	QQQPFVPPQQRQRQQ--LQQSGCMLGSGSYHQMTPSSVGLQTSLSLSPLOQYTSYVSH	1864	
QY	56	LQLQFPFPPCKLTPYPQPSFPPQAPFPQPFQPSQ-----	89	
Db	1865	VGLQCHGTGADTRHLQQRPSGYH--QQAPFYHGHLSTGRFSHQTLQCTPMGMTPLS	1923	
QY	90	-----PQPPLSQQAQQQQQQQQQQQQQQQLLQQLLQQQLLPQMDVVLQCHN	135	
Db	1924	AGQVQAGVSTSLPEQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ-----QQY--	1973	
QY	136	IAHARSQVLAQSTYQLQELCCQHLMQIPBQSGCCAIHNVNHAIIILHQQQKQQQPSQSV	195	
Db	1974	--HIRQQQQQQ-----QMLRQQQQQQQQQQ-----QQQQQQQQQQQQQQQ	2005	
QY	196	SFQQPLQCYPLQGSGFRPSQONPQAQSGVPPQQLPQFEIRNLA	239	
Db	2010	QQQQQPHQQ-----QQQAPFPQPPQSGPQFCQSGIQGQQQQQCTA	2049	

RESULT 11  
US-09-491-356C-8  
Sequence 8, Application US/09491356C  
Patent No. 6566061  
GENERAL INFORMATION:  
APPLICANT: Philibert, Robert A.  
APPLICANT: Gims, Edward I.  
APPLICANT: Delais, Lynn  
TITLE OF INVENTION: IDENTIFICATION OF POLYMORPHISMS IN THE PCT94 REGION OF XQ133

Query Match	14.1%	Score 202;	DB 4;	Length 2023;
Best Local Similarity	29.2%	Pred. No. 6.6e-10;		
Matches	87;	Conservative	15;	Mismatches 90; Indels 106; Gaps 11
QY	7	QLDPQNPSSQQAQDEQEPVLYQQQAQFFRQQA-QQFPQQQPY-----		43
Db	1747	QQQPAVPPQQAQRNRQ--LQSSQAKMLGGSSVHQMTPSSSYLQTSQGYTPVSHVGLQHT		180
QY	44	---PQPQFPFQQQCYLLQCFPPQPKLYP-----QPQSFPPQQPYP-----		81
Db	1805	GPAGTWVPSSYSQGYQSTHSTNPTLVDPFRHLQGRPSGVHQAQAPYGHGLTSTQRES		186
QY	82	---QQPPQYSQ-----PQPRISQQAQQQQQQQQQQQQQQQQQLQQ--		117
Db	1865	HQTLCQTPEYISTMTWMSAQGVQAGVRSALLPESQQQQQQQQQQQQQQQQQQQQQ		192
QY	118	ILQQQLIPCMQDVVLQQHNIHARSQVLAQSTYLLQELCCQHLWQIPESQSCQALHNVV		176
Db	1925	HIRQQQ-----QQQILRQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ-----		196
QY	177	HAIIHQQQQQQ-----QSSVSFP-QQLQGYPLRQGSFRPSQNPQAGSVPQ		227
Db	1963	---HQQQQQQQQAAPPQPPQPSQQAQFRRQGLQDTQQQQQCTAALVRLQQLQSLNTQ		2015

```

RESULT 12
US-09-538--092-1377
Sequence 1377 Application US/09538092
Patent No. 675318
GENERAL INFORMATION:
APPLICANT: Glot, Loic
APPLICANT: Mansfield, Traci A.
TITLE OF INVENTION: Protein-Protein Complexes and Method of Using Same
FILE REFERENCE: 15966-542
CURRENT APPLICATION NUMBER: US/09/538,092
PRIOR FILING DATE: 2000-03-29
PRIOR APPLICATION NUMBER: 60/127,352
PRIOR FILING DATE: 1999-04-01
PRIOR APPLICATION NUMBER: 60/178,965
PRIOR FILING DATE: 2000-02-01
NUMBER OF SEQ ID NOS: 1387
SOFTWARE: CurataseqFormatter Version 0.9
SEQ ID NO 1377
LENGTH: 2124
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: misc.feature
LOCATION: (0)..(0)
OTHER INFORMATION: Polypeptide Accession Number Q33074
US-09-538-092-1377

Query Match      14.1%   Score 202; DB 4; Length 2124;
Best Local Similarity 29.2%   Pred. No. 7e-10;
Matches 87; Conservative 15; Mismatches 90; Indels 106; Gaps 11

XY       7 GUQPNPNSQQCFQSEVPLVVQQQCFPPGQO--QQFPQGCPY----- 43
| | | | | : | | | | |

```

Db 1847 CCGPAVGGGRLNQ--LGGSGMGGSSVHGMWSSSYGLQTSQGYPPVSVHGLQCHT 1904  
QY 44 -----PQPPFPSSQPPFLQLOPPFPQPLPYP-----QPSPFPQPPY----- 81  
Db 1905 GGAGTWPPSSYSQPPQSTHPTNPVPTVPTNHLCQPSBGYHQAAPYGHGLSTQSPS 1964  
QY 82 ----QPQPSQ-----PQPPISQQAQGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG 117  
Db 1965 HQTLCQTPMISTMTWMSAGVAGVSTALPEQQGGGGGGGGGGGGGGGGGGGGGGGGGGGG 2024  
QY 118 -LHQGLIPCMQDVVLQCHNIHARSQVLCGSTYGLLQELCCGHLMQIEPQSCCAIHNVV 176  
Db 2025 HIRQQD-----QQQLIRQQGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG 2062  
QY 177 HALLHQGGKQQD-----QPSQVVSFQ-QPLQGYPLGGGSRFPQGNPQAQGSVPQ 227  
Db 2063 -----HQGGGGGGGAAPPCQPPQSPQPSQGLQCTQGGGGGGGTALVRLQGLQSTNQPP 2115

## RESULT 13

US-09-248-796A-19253  
Sequence 19253, Application US/09248796A  
Patent No. 6747137

## GENERAL INFORMATION:

APPLICANT: Keith Weinstock et al

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO CANDIDA ALBICAN

FILE REFERENCE: 107196.132

CURRENT APPLICATION NUMBER: US/09/248,796A

PRIOR FILING DATE: 1999-02-12

PRIOR APPLICATION NUMBER: US 60/074,725

PRIOR FILING DATE: 1998-08-13

PRIOR APPLICATION NUMBER: US 60/096,409

NUMBER OF SEQ ID NOS: 28208

SEQ ID NO 19253

LENGTH: 505

TYPE: PRT

ORGANISM: Candida albicans

US-09-248-796A-19253

## Query Match

Best Local Similarity 13.9%; Score 198.5; DB 4; Length 505;  
Matches 64; Conservative 24; Mismatches 47; Indels 101; Gaps 7;

QY 4 PVP-----GPPQNPSSQGGPQEVPLVQQGGGPPGQQGPPPPQPPYPPQPPFPSSQPPYGLQ 59  
Db 365 PVPNNLEBQLQQGGGQGGKQD-----KQQGEBQGHQQLPQQ----- 401  
QY 60 PPPQPKLPPPPQPPQPPQPPYPPQPPYPPQPPYPPQPPYPPQPPYPPQPPYPPQPPYPPQ 119  
Db 402 -----EPQGPQGGGQQGGGQQGGGQQGGGQQGGGQQGGGQQGGGQQGGGQQGGGQQGG 451  
QY 120 CQQLIPCMQDVVLQCHNIHARSQVLCGSTYGLLQELCCGHLMQIEPQSCCAIHNVVHAI 179  
Db 452 GQD-----PDPQGB----- 461  
QY 180 ILHQGGKQQGGGSSVSFQPPQGLQGYPLGGGSRFPQGNPQAQGSVPQQLPQFEI 235  
Db 462 ---QQGKKQPPQGGGKQGGKQPPQ-----GPPQGHNDQ-----QGGGQQPPQNTL 503

## RESULT 14

US-09-270-767-61220  
Sequence 61220, Application US/09270767  
Patent No. 6703491

## GENERAL INFORMATION:

APPLICANT: Homburger et al

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster

FILE REFERENCE: File Reference: 7326-094

CURRENT APPLICATION NUMBER: US/09/270,767

CURRENT FILING DATE: 1999-03-17

NUMBER OF SEQ ID NOS: 62517

SOFTWARE: PatentIn Ver. 2.0  
SEQ ID NO 61220  
LENGTH: 663  
TYPE: PRT  
ORGANISM: Drosophila melanogaster  
US-09-270-767-61220

Query Match 13.8%; Score 197.5; DB 4; Length 663;  
Best Local Similarity 29.8%; Pred. No. 4,4e-10;  
Matches 88; Conservative 25; Mismatches 97; Indels 85; Gaps 13;

QY 4 PVPQLOPNSSQGGPQEVPLVQQGGGPPGQQGPPPPQPPYPPQPPFPSSQPPYGLQOPFPQ 63  
Db 195 PVAB-----EQQGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGG 242  
QY 64 PPLPYPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQ 105  
Db 243 --LPAPQHSVNPQ-----QQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGG 296  
QY 106 CQGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG 154  
Db 297 CQGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG 350  
QY 155 LC-----CGHLMQIEPQSCCAIHNVVHAIILHQGGKQQGGGSSQVVS 196  
Db 351 LVTPTYSHPRGKPYPLPQAQGLQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGG 410  
QY 197 PQQPLQGYPLGGGSRFPQGNPQAQGSVPQQLPQFEIRNALQTPAMCNVYI 251  
Db 411 YGQ-----QISYKTLPNHPLAKSSLE-----SEIEKLAAKPGQSLAYV 451

## RESULT 15

US-09-270-767-45698  
Sequence 45698, Application US/09270767  
Patent No. 6703491

## GENERAL INFORMATION:

APPLICANT: Homburger et al

TITLE OF INVENTION: Nucleic acids and proteins of Drosophila melanogaster

FILE REFERENCE: File Reference: 7326-094

CURRENT APPLICATION NUMBER: US/09/270,767

PRIOR FILING DATE: 1999-03-17

NUMBER OF SEQ ID NOS: 62517

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 45698

LENGTH: 1591

TYPE: PRT

ORGANISM: Drosophila melanogaster

US-09-270-767-45698

## Query Match

Best Local Similarity 13.8%; Score 197.5; DB 4; Length 1591;  
Matches 88; Conservative 25; Mismatches 97; Indels 85; Gaps 13;

QY 4 PVPQLOPNSSQGGPQEVPLVQQGGGPPGQQGPPPPQPPYPPQPPFPSSQPPYGLQOPFPQ 63  
Db 1123 PVAB-----EQQGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGG 1170  
QY 64 PPLPYPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 105  
Db 1171 --LPAPQHSVNPQ-----QQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGG 1224  
QY 106 CQGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG 154  
Db 1225 CQGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG 1278  
QY 155 LC-----CGHLMQIEPQSCCAIHNVVHAIILHQGGKQQGGGSSQVVS 196  
Db 1279 LVTPTYSHPRGKPYPLPQAQGLQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGGGQGG 1338  
QY 197 PQQPLQGYPLGGGSRFPQGNPQAQGSVPQQLPQFEIRNALQTPAMCNVYI 251  
Db 1339 YGQ-----QISYKTLPNHPLAKSSLE-----SEIEKLAAKPGQSLAYV 1379

Wed Dec 15 10:01:58 2004

us-10-089-700-3-k65.ra1

Page 7

Search completed: December 14, 2004, 17:29:03  
Job time : 20 secs

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Wed Dec 15 10:01:58 2004

us-10-089-700-3-k65.raph

Page 1

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 14, 2004, 17:09:46 ; Search time 64.8333 Seconds  
(without alignments)  
1465.441 Million cell updates/sec

Title: US-10-089-700-3-K65

Sequence: 1 VRVVPQIQPQNPQSQQPPQ.....CNVYIAPCTIAPFIFGN 266

Scoring table: BLOSUM62  
Gapop 10.0, Gapext 0.5

Searched: 1585576 seqs, 357178320 residues

Total number of hits satisfying chosen parameters: 1585576

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications\_AA:\*

1: /cgn2\_6/ptodata/1/pubppa/US07\_PUBCOMB.pep:\*

2: /cgn2\_6/ptodata/1/pubppa/PCT\_NEW\_PUB.pep:\*

3: /cgn2\_6/ptodata/1/pubppa/US06\_NEW\_PUB.pep:\*

4: /cgn2\_6/ptodata/1/pubppa/US06\_PUBCOMB.pep:\*

5: /cgn2\_6/ptodata/1/pubppa/US07\_NEW\_PUB.pep:\*

6: /cgn2\_6/ptodata/1/pubppa/PCTUS\_PUBCOMB.pep:\*

7: /cgn2\_6/ptodata/1/pubppa/US08\_NEW\_PUB.pep:\*

8: /cgn2\_6/ptodata/1/pubppa/US08\_PUBCOMB.pep:\*

9: /cgn2\_6/ptodata/1/pubppa/US09\_PUBCOMB.pep:\*

10: /cgn2\_6/ptodata/1/pubppa/US09\_PUBCOMB.pep:\*

11: /cgn2\_6/ptodata/1/pubppa/US09C\_PUBCOMB.pep:\*

12: /cgn2\_6/ptodata/1/pubppa/US09\_NEW\_PUB.pep:\*

13: /cgn2\_6/ptodata/1/pubppa/US10\_PUBCOMB.pep:\*

14: /cgn2\_6/ptodata/1/pubppa/US10\_PUBCOMB.pep:\*

15: /cgn2\_6/ptodata/1/pubppa/US10C\_PUBCOMB.pep:\*

16: /cgn2\_6/ptodata/1/pubppa/US10D\_PUBCOMB.pep:\*

17: /cgn2\_6/ptodata/1/pubppa/US10\_NEW\_PUB.pep:\*

18: /cgn2\_6/ptodata/1/pubppa/US11\_NEW\_PUB.pep:\*

19: /cgn2\_6/ptodata/1/pubppa/US60\_NEW\_PUB.pep:\*

20: /cgn2\_6/ptodata/1/pubppa/US60\_PUBCOMB.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1345.5	94.0	287	US-10-739-930-9777	Sequence 9777, Ap
2	1244.5	87.0	319	US-10-739-930-9619	Sequence 9619, Ap
3	1241	86.7	298	US-10-739-930-9770	Sequence 9770, Ap
4	590	41.2	327	US-10-739-930-9623	Sequence 9623, Ap
5	558.5	39.0	282	US-10-474-955-101	Sequence 101, Ap
6	547.5	38.3	298	US-10-739-930-9621	Sequence 9621, Ap
7	526	36.8	279	US-10-474-955-98	Sequence 98, Ap
8	525	36.7	279	US-10-474-955-97	Sequence 97, Ap
9	521	36.4	279	US-10-474-955-98	Sequence 98, Ap
10	448.5	31.3	304	US-10-739-930-9778	Sequence 9778, Ap
11	440.5	30.8	307	US-10-739-930-9782	Sequence 9782, Ap
12	384	26.8	244	US-10-739-930-9769	Sequence 9769, Ap
13					

14	277	19.4	541	US-10-425-115-200100	Sequence 200100,
15	274	19.1	283	US-10-425-115-200097	Sequence 200097,
16	270	18.9	1162	US-09-894-273-2	Sequence 2, Appl
17	270	18.9	1162	US-10-294-804-2	Sequence 2, Appl
18	265	18.6	1065	US-10-161-927-54	Sequence 54, Appl
19	257	18.0	323	US-10-425-114-4403	Sequence 4403, A
20	251	17.5	905	US-10-451-467A-64	Sequence 64, Appl
21	248.5	17.4	390	US-10-424-599-270450	Sequence 270450,
22	241	16.8	358	US-10-104-047-3710	Sequence 3710, Ap
23	239.5	16.7	129	US-10-425-114-41056	Sequence 41056, A
24	231.5	16.2	148	US-10-465-217-15	Sequence 15, Appl
25	231	16.1	1044	US-10-425-114-72709	Sequence 72709, A
26	228.5	16.0	362	US-10-425-115-261231	Sequence 261231,
27	227	15.9	738	US-10-451-467A-238	Sequence 238, Ap
28	226.5	15.8	1173	US-10-437-963-144743	Sequence 144743,
29	225.5	15.8	192	US-10-425-114-52411	Sequence 52411, A
30	224	15.7	1236	US-09-769-787-109	Sequence 109, Ap
31	222	15.5	1024	US-10-479-546-12	Sequence 12, Appl
32	222	15.5	1153	US-10-479-546-12	Sequence 12, Appl
33	221.5	15.5	1645	US-10-263-929-176	Sequence 176, Ap
34	219	15.3	4952	US-10-051-874-36	Sequence 36, Appl
35	219	15.3	5008	US-10-051-874-166	Sequence 166, Ap
36	219	15.3	5159	US-10-085-198-112	Sequence 112, Ap
37	219	15.3	5262	US-10-051-874-165	Sequence 165, Ap
38	219	15.3	5262	US-10-051-874-167	Sequence 167, Ap
39	218	15.2	351	US-10-264-049-2693	Sequence 2693, A
40	216.5	15.1	1351	US-10-282-122A-75147	Sequence 75147, A
41	214	15.0	1343	US-10-282-122A-75965	Sequence 75965, A
42	214	15.0	1362	US-09-815-242-14003	Sequence 14003, A
43	213.5	14.9	1359	US-10-437-963-190032	Sequence 190032,
44	212.5	14.8	944	US-10-425-114-55600	Sequence 55600, A
45	209.5	14.6	1025	US-10-437-963-113116	Sequence 113116,

#### ALIGNMENTS

RESULT 1  
US-10-739-930-9777  
; Sequence 9777, Application US/10739930  
; Publication No. US20040216190A1  
GENERAL INFORMATION:  
APPLICANT: Kowalick, David K.  
TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH  
FILE OF INVENTION: PLANTS AND USES THEREOF FOR PLANT IMPROVEMENT  
FILE REFERENCE: 38-21(53377)B  
CURRENT APPLICATION NUMBER: US/10/739,930  
CURRENT FILING DATE: 2003-12-18  
NUMBER OF SEQ ID NOS: 11088  
SEQ ID NO 9777  
LENGTH: 287  
TYPE: PRT  
ORGANISM: Triticum aestivum  
FEATURE:  
OTHER INFORMATION: Clone ID: TRIA-23APR03-C176\_238.P  
US-10-739-930-9777

Query Match	94.0%	Score 1345.5	DB 17	Length 287
Best Local Similarity	95.1%	Pred. No. 3.6e-98		
Matches 254	Conservative 1	Mismatches 11	Indels 1	Gaps 1
QY	1	VRVVPQIQPQNPQSQQPPQ.....CNVYIAPCTIAPFIFGN	60	
DB	21	VRVVPQIQPQNPQSQQPPQ.....CNVYIAPCTIAPFIFGN	80	
QY	61	FPQKLYPQNPQSQQPPQ.....CNVYIAPCTIAPFIFGN	120	
DB	81	FPQKLYPQNPQSQQPPQ.....CNVYIAPCTIAPFIFGN	140	
QY	121	QQLIPCDVVLQCHNIAHRSQVYLOOSTYVLLQELCCQHLWQIPESQCAIHNVTYHAI	180	
DB	141	QQLIPCDVVLQCHNIAHRSQVYLOOSTYVLLQELCCQHLWQIPESQCAIHNVTYHAI	200	





```

; Sequence 101, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:
; APPLICANT: Dillifhout, Jan W.
; APPLICANT: Konig, Frits
; APPLICANT: McAdam, Stephan N.
; APPLICANT: Ludwig, Solid Magne
; TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS
; FILE REFERENCE: 2799/71244-PCT-US
; CURRENT APPLICATION NUMBER: US/10/474,955
; CURRENT FILING DATE: 2003-10-13
; NUMBER OF SEQ ID NOS: 137
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 101
; LENGTH: 282
; TYPE: PRT
; ORGANISM: Artificial Sequence
; OTHER INFORMATION: Amino acid sequence of GAMMA-1
US-10-474-955-101

```

```

Query Match          39.0%; Score 558.5; DB 17; Length 282;
Best Local Similarity 47.6%; Pred. No. 4e-36; Indels 47; Gaps 15;
Matches 138; Conservative 33; Mismatches 72;

```

```

QY 2 RVPVPOQL---QPQNPQQPQEQGVPLVQQQPPGQ---QGF---PPQPPPPP-QPPS 51
DB 10 QVPMWQQPFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQ 68
QY 52 --QQPVYQ--LQPFQPPPL-YPQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 106
DB 69 QPQYVPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 118
QY 107 QQQQQQQQLLQQLIPCMQVYLQGHN---IAHRSQVLAQSTYQLQLCCGHLWQ 162
DB 119 FQQQQPSLQQSLQQQLPCKNFFLQCKPVSLSMSMILPRSDQVWRQCCQQLAQ 178
QY 163 IPEQSCCAHNVVAIILHQQKQQQPPSSQVFPQPL-QQYPLGGGSRPPSQNPQAQ 221
DB 179 IPQQLQCAHNVVAIILHQQKQQQPPSSQVFPQPL-QQYPLGGGSRPPSQNPQAQ 229
QY 222 GSVQPPQLPQEEIRNLALQTLPMQNVYIAPYCTI--APF-----GIFG 264
DB 230 GHPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQ 279

```

```

RESULT 6
US-10-739-930-9621
; Sequence 9621, Application US/10739930
; Publication No. US20040216190A1
; GENERAL INFORMATION:
; APPLICANT: Kovalic, David K.
; TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH
; FILE REFERENCE: 38-21(53377)B
; CURRENT APPLICATION NUMBER: US/10/739,930
; CURRENT FILING DATE: 2003-12-18
; NUMBER OF SEQ ID NOS: 11088
; SEQ ID NO 9621
; LENGTH: 298
; TYPE: PRT
; ORGANISM: Triticum aestivum
; OTHER INFORMATION: Clone ID: TRIAR-23APR03-C125_65.p
US-10-739-930-9621

```

```

Query Match          38.3%; Score 547.5; DB 17; Length 298;
Best Local Similarity 46.9%; Pred. No. 3.1e-35;
Matches 134; Conservative 29; Mismatches 74; Indels 49; Gaps 14;
4 PVPQQLPQNPQQPQEQGVPLVQQQPPGQPPGQ---QGFPPPPPPPPPPPPPPPPPPPP 61

```

```

DB 36 PVP---QHPQPPSQP-----QTFPPQQTFFPHQPPQPPQPPQPPQPPQPPQPP 84
QY 62 P-QPQLPYPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 110
DB 85 PQQPQPPPPQ---QPQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 140
QY 111 QQQQLLQQQLIPCMQVYLQGHN---IAHRSQVLAQSTYQLQLCCGHLWQIPQ 166
DB 141 QPPIQPSLQQQVPMCKNFFLQCKPVSLSMSMILPRSDQVWRQCCQQLAQIPQ 200
QY 167 SQCCAHNVVAIILHQQKQQQPPSSQVFPQPL-QQYPLGGGSRPPSQNPQAQSVQ 225
DB 201 LQCAHNVVAIILHQQKQQQPPSSQVFPQPL-QQYPLGGGSRPPSQNPQAQSVQ 251
QY 226 PQQLPQEEIRNLALQTLPMQNVYIAPYCTI--APF-----GIFG 264
DB 252 PQQPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 297

```

```

RESULT 7
US-10-474-955-99
; Sequence 99, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:
; APPLICANT: Dillifhout, Jan W.
; APPLICANT: Konig, Frits
; APPLICANT: McAdam, Stephan N.
; APPLICANT: Ludwig, Solid Magne
; TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS
; FILE REFERENCE: 2799/71244-PCT-US
; CURRENT APPLICATION NUMBER: US/10/474,955
; CURRENT FILING DATE: 2003-10-13
; NUMBER OF SEQ ID NOS: 137
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 99
; LENGTH: 279
; TYPE: PRT
; ORGANISM: Artificial Sequence
; OTHER INFORMATION: Amino acid sequence of GAMMA-4
US-10-474-955-99

```

```

Query Match          36.8%; Score 526; DB 17; Length 279;
Best Local Similarity 46.2%; Pred. No. 1.4e-33;
Matches 132; Conservative 27; Mismatches 75; Indels 52; Gaps 14;

```

```

QY 4 PVPQQLPQNPQQPQEQGVPLVQQQPPGQPPGQ---QGFPPPPPPPPPPPPPPPPPPPP 61
DB 18 PVP---QHPQPPSQP-----QTFPPQQTFFPHQPPQPPQPPQPPQPPQPPQPP 66
QY 62 P-QPQLPYPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 110
DB 67 PQQPQPPPPQ---QPQPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP 122
QY 111 QQQQLLQQQLIPCMQVYLQGHN---IAHRSQVLAQSTYQLQLCCGHLWQIPQ 166
DB 123 QPPIQPSLQQQVPMCKNFFLQCKPVSLSMSMILPRSDQVWRQCCQQLAQIPQ 182
QY 167 SQCCAHNVVAIILHQQKQQQPPSSQVFPQPL-QQYPLGGGSRPPSQNPQAQSVQ 225
DB 201 LQCAHNVVAIILHQQKQQQPPSSQVFPQPL-QQYPLGGGSRPPSQNPQAQSVQ 251
QY 226 PQQLPQEEIRNLALQTLPMQNVYIAPYCTI--APF-----GIFG 264
DB 231 PQQPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 276

```

```

RESULT 8
US-10-474-955-97
; Sequence 97, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:

```

APPLICANT: Drifftout, Jan W.  
 APPLICANT: Konig, Frits  
 APPLICANT: McAdam, Stephan N.  
 APPLICANT: Ludwig, Solid Magne  
 TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS  
 FILE REFERENCE: 2799/71244-PCT-US  
 CURRENT APPLICATION NUMBER: US/10/474,955  
 CURRENT FILING DATE: 2003-10-13  
 NUMBER OF SEQ ID NOS: 137  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 97  
 LENGTH: 279  
 TYPE: PRT  
 ORGANISM: Artificial Sequence  
 FEATURE:  
 OTHER INFORMATION: Consensus amino acid sequence  
 US-10-474-955-97

Query Match 36.7%; Score 525; DB 17; Length 279;  
 Best Local Similarity 46.2%; Pred. No. 1.7e-33;  
 Matches 132; Conservative 27; Mismatches 75; Indels 52; Gaps 14;

4 PVPQLQPNPSSQQQPQEQVPLVQQQQFPQSQQQQFP--PQQPYPPQPPFPSSQPPYLQLPF 61  
 18 PVP--QPHQPPSQP-----QQTFFPQQTFFHQPPQPPQPPQ--PQQFLQPPQPF 66  
 62 P-QPKLPPYPPQSPPPPPQPPQPPQ-----PQYSPQPPISQQAQ-----QQQQQQQQQQ 110  
 67 PQQPQQPPYPPQ-----QPPQPPPTQQPQQQLFPQSQQQPQQQSPQPPQPPQPPQPPQPPQ 122  
 111 QQQILQQILQQQLIPCMQVVLQGHN-----IAHARSQVLTQOSTYQLLQELCCQHLWQIPQ 166  
 123 QPPFIQPSLQQQVNPCKNFIQQCKRPSVLSMSMIMWPQSDQVWRQSCQQLAQIPQ 182  
 167 SCCQAIHNVHAIILHQQQKQQQSSQVSPQQL--QYPLQGGSRPSQGNPQAQGSVQ 225  
 183 LQCAIHVTHSIIMQEQEQ-----GWHILPLVQQQVQGGTL-----VQGGGIIQ 230  
 226 PQQLPQFEERINLALQTLPMQCNVYIAPYCTI--APF-----GIRG 264  
 231 PQQPAQLAIRSLVLTLPMTQCNVYVPPGCSIIKAFSSVAVGIG 276

RESULT 9  
 US-10-474-955-98  
 Sequence 98, Application US/10474955  
 Publication No. US20040241161A1  
 GENERAL INFORMATION:  
 APPLICANT: Drifftout, Jan W.  
 APPLICANT: Konig, Frits  
 APPLICANT: McAdam, Stephan N.  
 APPLICANT: Ludwig, Solid Magne  
 TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS  
 FILE REFERENCE: 2799/71244-PCT-US  
 CURRENT APPLICATION NUMBER: US/10/474,955  
 CURRENT FILING DATE: 2003-10-13  
 NUMBER OF SEQ ID NOS: 137  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 98  
 LENGTH: 279  
 TYPE: PRT  
 ORGANISM: Artificial Sequence  
 FEATURE:  
 OTHER INFORMATION: Amino acid sequence of GAMMA-2  
 US-10-474-955-98

Query Match 36.4%; Score 521; DB 17; Length 279;  
 Best Local Similarity 45.8%; Pred. No. 3.6e-33;  
 Matches 131; Conservative 27; Mismatches 76; Indels 52; Gaps 14;  
 4 PVPQLQPNPSSQQQPQEQVPLVQQQQFPQSQQQQFP--PQQPYPPQPPFPSSQPPYLQLPF 61

DB 18 PVP--QPHQPPSQP-----QQTFFPQQTFFHQPPQPPQPPQ--PQQFLQPPQPF 66  
 62 P-QPKLPPYPPQSPPPPPQPPQPPQ-----PQYSPQPPISQQAQ-----QQQQQQQQQQ 110  
 67 PQQPQQPPYPPQ-----QPPQPPPTQQPQQQLFPQSQQQPQQQSPQPPQPPQPPQPPQPPQ 122  
 111 QQQILQQILQQQLIPCMQVVLQGHN-----IAHARSQVLTQOSTYQLLQELCCQHLWQIPQ 166  
 123 QPPFIQPSLQQQVNPCKNFIQQCKRPSVLSMSMIMWPQSDQVWRQSCQQLAQIPQ 182  
 167 SCCQAIHNVHAIILHQQQKQQQSSQVSPQQL--QYPLQGGSRPSQGNPQAQGSVQ 225  
 183 LQCAIHVTHSIIMQEQEQ-----GWHILPLVQQQVQGGTL-----VQGGGIIQ 230  
 226 PQQLPQFEERINLALQTLPMQCNVYIAPYCTI--APF-----GIRG 264  
 231 PQQPAQLAIRSLVLTLPMTQCNVYVPPGCSIIKAFSSVAVGIG 276

RESULT 10  
 US-10-474-955-100  
 Sequence 100, Application US/10474955  
 Publication No. US20040241161A1  
 GENERAL INFORMATION:  
 APPLICANT: Drifftout, Jan W.  
 APPLICANT: Konig, Frits  
 APPLICANT: McAdam, Stephan N.  
 APPLICANT: Ludwig, Solid Magne  
 TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS  
 FILE REFERENCE: 2799/71244-PCT-US  
 CURRENT APPLICATION NUMBER: US/10/474,955  
 CURRENT FILING DATE: 2003-10-13  
 NUMBER OF SEQ ID NOS: 137  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 100  
 LENGTH: 279  
 TYPE: PRT  
 ORGANISM: Artificial Sequence  
 FEATURE:  
 OTHER INFORMATION: Amino acid sequence of GAMMA-3  
 US-10-474-955-100

Query Match 36.4%; Score 521; DB 17; Length 279;  
 Best Local Similarity 46.0%; Pred. No. 3.6e-33;  
 Matches 131; Conservative 29; Mismatches 75; Indels 50; Gaps 14;  
 4 PVPQLQPNPSSQQQPQEQVPLVQQQQFPQSQQQQFP--PQQPYPPQPPFPSSQPPYLQLPF 61  
 18 PVP--QPHQPPSQP-----QQTFFPQQTFFHQPPQPPQPPQ--PQQFLQPPQPF 66  
 62 P-QPKLPPYPPQSPPPPPQPPQPPQ-----PQYSPQPPISQQAQ-----QQQQQQQQQQ 110  
 67 PQQPQQPPYPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQ 123  
 112 QQQILQQILQQQLIPCMQVVLQGHN-----IAHARSQVLTQOSTYQLLQELCCQHLWQIPQ 167  
 124 PPFIIQPSLQQQVNPCKNFIQQCKRPSVLSMSMIMWPQSDQVWRQSCQQLAQIPQ 183  
 168 SCCQAIHNVHAIILHQQQKQQQSSQVSPQQL--QYPLQGGSRPSQGNPQAQGSVQ 226  
 184 LQCAIHVTHSIIMQEQEQ-----GWHILPLVQQQVQGGTL-----VQGGGIIQ 231  
 227 PQQLPQFEERINLALQTLPMQCNVYIAPYCTI--APF-----GIRG 264  
 232 PQQPAQLAIRSLVLTLPMTQCNVYVPPGCSIIKAFSSVAVGIG 276

RESULT 11  
 US-10-739-930-9778  
 Sequence 9778, Application US/10739930  
 Publication No. US20040216190A1







Query Match 88.6%; Score 1267.5; DB 2; Length 231;  
Best Local Similarity 87.6%; Pred. No. 2,6e-77;  
Matches 240; Conservative 8; Mismatches 15; Indels 11; Gaps 2;

Query 1 VRVVFVQLDLPONPSQQQPEQVPLVQKQQLFPQQQQPFPQQPYPQPCFPFSSQCPYLQLP 60  
21 VRVVFVQLDLPONPSQQQPEQVPLVQKQQLFPQQQQPFPQQPYPQPCFPFSSQCPYLQLP 80

Db 61 FPPQPKLPYPPQSGFPFPQPPYPPQPPYQYQSPQQPPISSQQQAQQQQQQQQQQQQLLQQLLQ 120  
81 FPPQPKLPYPPQPPYPPQPPYPPQPPYQYQSPQQPPISSQ---QQQQQQQQQQQQQLLQQLLQ 137

Query 121 QQLIPCMQDVLLQOHNIHARSSQVLLQSGTYQLLQELACQHLNQIPFQSSQCAIHNVVAII 180  
Db 138 QQLIPCMQDVLLQOHNIHARSSQVLLQSGTYQLLQELACQHLNQIPFQSSQCAIHNVVAII 197

Query 181 LR-----QQKQKQQQSSQVSSQQPLQQYPLGQSSFRPSSQNPQAQSSVQCPQLPQF 232  
Db 198 LRQGHHHHQKQQQQQQQQQQLPQLSQVSSFPQPPQQQYPSQQGFQFPQQNPQAQSSVQCPQLPQF 257

Query 233 EETRNALQTLPRMCMVYIAPYCTIAPFGIGTN 266  
Db 258 EETRNALQTLPRMCMVYIAPYCTIAPFGIGTN 291

RESULT 5  
S10015  
alpha/beta-gliadin precursor (clone MM1) - wheat  
C:Species: Triticum aestivum (common wheat)  
C:Date: 31-Dec-1990 #sequence\_revision 31-Dec-1990 #text\_change 09-Jul-2004  
C:Accession: S10015  
R:Garcia-Maroto, F.; Mariana, C.; Garcia-Olmedo, F.; Carbonero, P.  
Plant Mol. Biol. 14, 867-868, 1990  
L:Title: Nucleotide sequence of a cDNA encoding an alpha/beta-type gliadin from hexaploid wheat  
A:Reference number: S10015; MUID:91346679; PMID:2102865  
A:Accession: S10015  
A:Molecule type: mRNA  
A:Residues: 1-307 <GAR>  
A:Cross-references: UNIPROT:P18573; EMBL:X17361; NID:g21672; PIDN:CAA35238.1; PID:g21672

Query Match 88.6%; Score 1267.5; DB 2; Length 307;  
Best Local Similarity 87.6%; Pred. No. 2,6e-77;  
Matches 240; Conservative 8; Mismatches 15; Indels 11; Gaps 2;

Query 1 VRVVFVQLDLPONPSQQQPEQVPLVQKQQLFPQQQQPFPQQPYPQPCFPFSSQCPYLQLP 60  
21 VRVVFVQLDLPONPSQQQPEQVPLVQKQQLFPQQQQPFPQQPYPQPCFPFSSQCPYLQLP 80

Db 61 FPPQPKLPYPPQSGFPFPQPPYPPQPPYQYQSPQQPPISSQQQAQQQQQQQQQQQQLLQQLLQ 120  
81 FPPQPKLPYPPQPPYPPQPPYPPQPPYQYQSPQQPPISSQ---QQQQQQQQQQQQQLLQQLLQ 137

Query 121 QQLIPCMQDVLLQOHNIHARSSQVLLQSGTYQLLQELACQHLNQIPFQSSQCAIHNVVAII 180  
Db 138 QQLIPCMQDVLLQOHNIHARSSQVLLQSGTYQLLQELACQHLNQIPFQSSQCAIHNVVAII 197

Query 181 LR-----QQKQKQQQSSQVSSQQPLQQYPLGQSSFRPSSQNPQAQSSVQCPQLPQF 232  
Db 198 LRQGHHHHQKQQQQQQQQQQLPQLSQVSSFPQPPQQQYPSQQGFQFPQQNPQAQSSVQCPQLPQF 257

Query 233 EETRNALQTLPRMCMVYIAPYCTIAPFGIGTN 266  
Db 258 EETRNALQTLPRMCMVYIAPYCTIAPFGIGTN 291

RESULT 4  
T06498  
alpha/beta-gliadin A-II precursor - wheat  
C:Species: Triticum aestivum (common wheat)  
C:Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #text\_change 09-Jul-2004  
C:Accession: T06498  
R:Okita, T.W.; Cheesbrough, V.; Reeves, C.D.  
J. Biol. Chem. 260, 8203-8213, 1985  
A:Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin genes  
A:Reference number: A92541; MUID:85234522; PMID:2989281  
A:Accession: T06498  
A:Status: Translated from GB/EMBL/DBJ  
A:Molecule type: mRNA  
A:Residues: 1-291 <OKI>  
A:Cross-references: UNIPROT:P04722; EMBL:M10092; NID:g170711; PIDN:AAA34276.1; PID:g07307

Best Local Similarity 84.7%; Pred. No. 2.7e-77;  
Matches 243; Conservative 9; Mismatches 14; Indels 21; Gaps 3;

QY 1 VRVVPVQLPQNPSPQSQPQEQVPLVQOQFPFGQOQFPFPQOQPYPOQPFPSQOPIYLQLOP 60  
DB 21 VRVVPVQLPQNPSPQSQPQEQVPLVQOQFPFGQOQFPFPQOQPYPOQPFPSQOPIYLQLOP 80  
QY 61 F-----PQKLPYPOQSPFPQOQPYPOQPOQYSQPOQPISSQQAQOQOQO- 105  
DB 81 FPGPQLPYPOQPLPYPOQPOQPFQOQPYPOQPOQPYPOQPOQPOQPISSQQAQOQOQO 140  
QY 106 --OQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQO 163  
DB 141 OKQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQO 200  
QY 164 PEOSSQOAIHNVVHAIIILH---OQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQO 219  
DB 201 PEOSSQOAIHNVVHAIIILH---OQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQO 260  
QY 220 AGQSVAPQOQLPQFEEIRNLALQTLPMCNVYIAPYCTIAPFGIFGTN 266  
DB 261 AGQSVAPQOQLPQFEEIRNLALQTLPMCNVYIAPYCTIAPFGIFGTN 307

## RESULT 6

S07361  
alpha/beta-gliadin precursor (clone PM1215) - wheat  
C:Species: Triticum aestivum (common wheat)  
C>Date: 08-Jun-1994 #sequence\_revision 01-Dec-1995 #text\_change 09-Jul-2004  
C:Accession: S07361  
R:Sumner-Smith, M.; Rafalski, J.A.; Sugiyama, T.; Stoll, M.; Seell, D.  
Nucleic Acids Res. 13, 3905-3916, 1985  
A:Title: Conservation and variability of wheat alpha/beta-gliadin genes.  
A:Reference number: S07361; PMID:85242077; PMID:3839304  
A:Accession: S07361  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-296 <SUM>  
A:Cross-references: UNIPROT:P04726; EMBL:X02538; NID:921756; PIDN:CAA26383.1; PID:921757  
C:Superfamily: gliadin  
C:Keywords: seed; storage protein

Query Match 88.3%; Score 1263; DB 2; Length 296;  
Best Local Similarity 88.1%; Pred. No. 5.2e-77;  
Matches 244; Conservative 5; Mismatches 16; Indels 12; Gaps 4;

QY 1 VRVVPVQLPQNPSPQSQPQEQVPLVQOQFPFGQOQFPFPQOQPYPOQPFPSQOPIYLQLOP 60  
DB 21 VRVVPVQLPQNPSPQSQPQEQVPLVQOQFPFGQOQFPFPQOQPYPOQPFPSQOPIYLQLOP 80  
QY 61 FPO-----PKLPYPOQSPFPQOQPYPOQPOQYSQPOQPISSQQA- 111  
DB 81 FPGPQLPYPOQPLPYPOQPOQPFQOQPYPOQPOQPYPOQPOQPOQPISSQQAQOQOQO 140  
QY 112 QOILQOILQOQOILPCMDVVLQOHNIAHARSQVLAQSTYQLQLQELCCOHLMOIPEQSQCAI 111  
DB 141 QOILQOILQOQOILPCMDVVLQOHNIAHARSQVLAQSTYQLQLQELCCOHLMOIPEQSQCAI 200  
QY 172 IHNVAHAIILHQQOQKQOQOQSSQVSPFOQLQOQYVLGGSSFPSSQONQOAGSVQPOQLPQ 231  
DB 201 IHNVAHAIILHQQOQKQOQOQSSQVSPFOQLQOQYVLGGSSFPSSQONQOAGSVQPOQLPQ 259  
QY 232 FEEIRNLALQTLPMCNVYIAPYC--TIAPFGIFGTN 266  
DB 260 FEEIRNLALQTLPMCNVYIAPYC--TIAPFGIFGTN 296

## RESULT 7

S07924  
alpha/beta-gliadin precursor - wheat  
C:Species: Triticum aestivum (common wheat)  
C>Date: 08-Jun-1994 #sequence\_revision 01-Dec-1995 #text\_change 09-Jul-2004  
C:Accession: S07924; C61218

R:Sumner-Smith, M.; Rafalski, J.A.; Sugiyama, T.; Stoll, M.; Seell, D.  
Nucleic Acids Res. 13, 3905-3916, 1985  
A:Title: Conservation and variability of wheat alpha/beta-gliadin genes.  
A:Reference number: S07361; PMID:85242077; PMID:3839304  
A:Accession: S07924  
A:Status: preliminary; translation not shown  
A:Molecule type: DNA  
A:Residues: 1-313 <SUM>

A:Cross-references: UNIPROT:Q41546; EMBL:X02540; NID:921764; PIDN:CAA26385.1; PID:92176  
R:Shewry, P.R.; Sabelli, P.A.; Parmar, S.; Lafandra, D.  
Biochem. Genet. 29, 207-211, 1991  
A:Title: alpha-type prolamins are encoded by genes on chromosomes 4Ha and 6Ha of Hayna1  
A:Reference number: A61218; PMID:91315394; PMID:1859356  
A:Accession: C61218  
A:Status: preliminary  
A:Molecule type: protein  
A:Residues: 18-27 <SH>  
C:Superfamily: gliadin  
C:Keywords: seed; storage protein

Query Match 88.1%; Score 1261; DB 2; Length 313;  
Best Local Similarity 82.8%; Pred. No. 7.4e-77;  
Matches 245; Conservative 9; Mismatches 12; Indels 30; Gaps 4;

QY 1 VRVVPVQLPQNPSPQSQPQEQVPLVQOQFPFGQOQFPFPQOQPYPOQPFPSQOPIYLQLOP 60  
DB 18 VRVVPVQLPQNPSPQSQPQEQVPLVQOQFPFGQOQFPFPQOQPYPOQPFPSQOPIYLQLOP 77  
QY 61 FPO-----PKLPYPOQSPFPQOQPYPOQPOQYSQPOQPISSQQA- 112  
DB 78 FPGPQLPYPOQPLPYPOQPOQPFQOQPYPOQPOQPYPOQPOQPOQPISSQQAQOQOQO 137  
QY 113 QILQOILQOQOILPCMDVVLQOHNIAHARSQVLAQSTYQLQLQELCCOHLMOIPEQSQCAI 172  
DB 138 QILQOILQOQOILPCMDVVLQOHNIAHARSQVLAQSTYQLQLQELCCOHLMOIPEQSQCAI 197  
QY 173 HNVVHAIIILH-----OQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQO 212  
DB 198 HNVVHAIIILH-----OQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQOQO 257  
QY 213 PEOSSQOAGSVQPOQLPQFEEIRNLALQTLPMCNVYIAPYC--TIAPFGIFGTN 266  
DB 258 PEOSSQOAGSVQPOQLPQFEEIRNLALQTLPMCNVYIAPYC--TIAPFGIFGTN 313

## RESULT 8

A27319  
gliadin - wheat  
C:Species: Triticum aestivum (common wheat)  
C>Date: 04-Mar-1988 #sequence\_revision 04-Mar-1988 #text\_change 03-Feb-1994  
C:Accession: A27319  
R:Reeves, C.D.; Okita, T.W.  
Gene 52, 257-266, 1987  
A:Title: Analyses of alpha/beta-type gliadin genes from diploid and hexaploid wheats.  
A:Reference number: A27319; PMID:87277398; PMID:3038689  
A:Accession: A27319  
A:Status: preliminary  
A:Molecule type: DNA  
A:Residues: 1-296 <REE>  
C:Superfamily: gliadin

Query Match 87.8%; Score 1257; DB 2; Length 296;  
Best Local Similarity 87.7%; Pred. No. 1.3e-76;  
Matches 243; Conservative 4; Mismatches 18; Indels 12; Gaps 4;

QY 1 VRVVPVQLPQNPSPQSQPQEQVPLVQOQFPFGQOQFPFPQOQPYPOQPFPSQOPIYLQLOP 60  
DB 21 VRVVPVQLPQNPSPQSQPQEQVPLVQOQFPFGQOQFPFPQOQPYPOQPFPSQOPIYLQLOP 80  
QY 61 FPO-----PKLPYPOQSPFPQOQPYPOQPOQYSQPOQPISSQQA- 111  
DB 81 FPGPQLPYPOQPLPYPOQPOQPFQOQPYPOQPOQPYPOQPOQPOQPISSQQAQOQOQO 140





D22364  
 alpha/beta-gliadin precursor (clone A735) - wheat  
 C/Species: Triticum aestivum (common wheat)  
 C/Date: 31-Dec-1988 #sequence\_revision 31-Dec-1988 #text\_change 09-Jul-2004  
 C/Accession: D22364  
 R/Okita, T.W.; Cheesbrough, V.; Reeves, C.D.  
 J. Biol. Chem. 260, 8203-8213, 1985  
 A/Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA  
 A/Reference number: A92541; MUID:85234522; PMID:2989281  
 A/Accession: D22364  
 A/Molecule type: mRNA  
 A/Residues: 1-326 <OKI>  
 A/Cross-references: UNIPROT:P04724  
 C/Superfamily: gliadin  
 F/1-20/Domain: signal sequence #status predicted <SIG>  
 F/21-326/Product: alpha/beta-gliadin #status predicted <MAT>

Query Match 85.5%; Score 1223; DB 2; Length 326;  
 Best Local Similarity 77.8%; Pred. No. 2.5e-74;  
 Matches 238; Conservative 10; Mismatches 18; Indels 40; Gaps 4;

QY 1 VRVVPOLQPNPSCQCPQEVPLVQQQCPFGQQQCPFPQCPQCPFPSPQCPYQLQCP 60  
 DB 21 VRVVPOLQPNPSCQCPQEVPLVQQQCPFGQQQCPFPQCPYQLQCP 80  
 QY 61 F-----PPKLPYCPQSPFPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCP 107  
 DB 81 PFPQCPFPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCP 140  
 QY 108 QQQQQQILQQILQQQILPCMDVVLQGNINAHASQVLCQSTYQLDELCCQHLMOIPES 167  
 DB 141 QQQQQQILQQILQQQILPCMDVVLQGNINAHASQVLCQSTYQLDELCCQHLMOIPES 200  
 QY 168 QCAIHNVVAIILH-----QQQKQQCPSSQVSPQCPYCPQCPYCPQCPYCPQCP 202  
 DB 201 RCQAHNVVAIILHQQQQQQQEQKQQLQQQQQQQQLQQQQQQQQLPISQVCFQSSQ 260  
 QY 203 QYPLGSGFSPSCQCPQAGSVQCPQLPQFEIRNLALQTLPMCNVYIAPYC--TIAP 260  
 DB 261 QYFPGSGFSPSCQCPQAGSVQCPQLPQFEIRNLALQTLPMCNVYIAPYC--TIAP 320  
 QY 261 GIGFTN 266  
 DB 321 GIGFTN 326

## RESULT 13

E22364  
 alpha/beta-gliadin precursor (clone A1235) - wheat  
 C/Species: Triticum aestivum (common wheat)  
 C/Date: 31-Dec-1988 #sequence\_revision 31-Dec-1988 #text\_change 09-Jul-2004  
 C/Accession: B22364  
 R/Okita, T.W.; Cheesbrough, V.; Reeves, C.D.  
 J. Biol. Chem. 260, 8203-8213, 1985  
 A/Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA  
 A/Reference number: A92541; MUID:85234522; PMID:2989281  
 A/Accession: B22364  
 A/Molecule type: mRNA  
 A/Residues: 1-320 <OKI>  
 A/Cross-references: UNIPROT:P04723  
 C/Superfamily: gliadin  
 F/1-20/Domain: signal sequence #status predicted <SIG>  
 F/21-320/Product: alpha/beta-gliadin #status predicted <MAT>

Query Match 84.3%; Score 1206; DB 2; Length 320;  
 Best Local Similarity 79.0%; Pred. No. 3.3e-73;  
 Matches 237; Conservative 12; Mismatches 17; Indels 34; Gaps 5;

QY 1 VRVVPOLQPNPSCQCPQEVPLVQQQCPFGQQQCPFPQCPYQLQCP 59  
 DB 21 VRVVPOLQPNPSCQCPQEVPLVQQQCPFGQQQCPFPQCPYQLQCP 80  
 QY 60 PFPQ-----PKLPYCPQSPFPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCP 113

DB 81 PFPQCPFPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCP 140  
 QY 114 ILQQILQQQILPCMDVVLQGNINAHASQVLCQSTYQLDELCCQHLMOIPESQCAIH 173  
 DB 141 TLQQILQQQILPCMDVVLQGNINAHASQVLCQSTYQLDELCCQHLMOIPESQCAIH 200  
 QY 174 NVVAIILH-----QQQKQQCPSSQVSPQCPYCPQCPYCPQCPYCPQCPYCPQCP 208  
 DB 201 NVVAIILHQQQQQQEQKQQLQQQQQQQQLQQQQQQQQLPISQVCFQSSQ 260  
 QY 209 GSFPSQCPQAGSVQCPQLPQFEIRNLALQTLPMCNVYIAPYC--TIAPFGIGTN 266  
 DB 261 VSFQSQCPQAGSVQCPQLPQFEIRNLALQTLPMCNVYIAPYC--TIAPFGIGTN 320

## RESULT 14

T06504  
 alpha/beta-gliadin precursor (A-III) - wheat  
 C/Species: Triticum aestivum (common wheat)  
 C/Date: 23-Apr-1999 #sequence\_revision 23-Apr-1999 #text\_change 09-Jul-2004  
 C/Accession: T06504  
 R/Okita, T.W.; Cheesbrough, V.; Reeves, C.D.  
 J. Biol. Chem. 260, 8203-8213, 1985  
 A/Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA  
 A/Reference number: A92541; MUID:85234522; PMID:2989281  
 A/Accession: T06504  
 A/Status: preliminary; translated from GB/EMBL/DBJ  
 A/Molecule type: mRNA  
 A/Residues: 1-282 <OKI>  
 A/Cross-references: UNIPROT:P04723; EMBL:M11076; NID:g170725; PIDN:AAA4283.1; PID:g17  
 C/Superfamily: gliadin  
 C/Keywords: seed; storage protein  
 F/1-20/Domain: signal sequence #status predicted <SIG>  
 F/21-282/Product: alpha/beta-gliadin A-III #status predicted <MAT>

Query Match 82.7%; Score 1183; DB 2; Length 282;  
 Best Local Similarity 84.8%; Pred. No. 9.9e-72;  
 Matches 228; Conservative 12; Mismatches 19; Indels 10; Gaps 4;

QY 1 VRVVPOLQPNPSCQCPQEVPLVQQQCPFGQQQCPFPQCPYQLQCP 59  
 DB 21 VRVVPOLQPNPSCQCPQEVPLVQQQCPFGQQQCPFPQCPYQLQCP 80  
 QY 60 PFPQKLPYCPQSPFPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCP 119  
 DB 81 PFP-QPFPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCP 133  
 QY 120 QQQILPCMDVVLQGNINAHASQVLCQSTYQLDELCCQHLMOIPESQCAIHNVVAI 179  
 DB 134 QQQILPCMDVVLQGNINAHASQVLCQSTYQLDELCCQHLMOIPESQCAIHNVVAI 193  
 QY 180 IHQQKQQQQSSQVSPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCP 239  
 DB 194 IHHHQQQQQSSQVSPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCPYCPQCP 253  
 QY 240 LQTLPMCNVYIAPYC--TIAPFGIGTN 266  
 DB 254 LQTLPMCNVYIAPYC--TIAPFGIGTN 282

## RESULT 15

B22364  
 alpha/beta-gliadin precursor (clone A26) - wheat  
 C/Species: Triticum aestivum (common wheat)  
 C/Date: 31-Dec-1988 #sequence\_revision 31-Dec-1988 #text\_change 09-Jul-2004  
 C/Accession: B22364  
 R/Okita, T.W.; Cheesbrough, V.; Reeves, C.D.  
 J. Biol. Chem. 260, 8203-8213, 1985  
 A/Title: Evolution and heterogeneity of the alpha/beta-type and gamma-type gliadin DNA  
 A/Reference number: A92541; MUID:85234522; PMID:2989281  
 A/Accession: B22364  
 A/Molecule type: mRNA

A:Residues: 1-292 &lt;OKI&gt;

A:Cross-references: UNIPROT:P04721

C:Superfamily: gliadin

F:1-292/Domain: signal sequence #status predicted &lt;SIG&gt;

F:21-292/Product: alpha/beta-gliadin #status predicted &lt;MAT&gt;

Query Match

80.7%; Score 115.5; DB 2; Length 292;

Best Local Similarity

84.1%; Pred. No. 6.8e-70; Mismatches 9; Indels 31; Gaps 4;

Matches 227; Conservative

3; Mismatches 9; Indels 31; Gaps 4;

```
QY 1 VRVVPQLCPQNSQQQPEQVPLVQQQQFRGQQQAPPPQPPYPPQPPPSQQPYLQLQP 60
   |||||
DB 21 VRVVPVPLQLCPNPSQQQPEQVPLVQQQQFLGQQQPPPPQPPYPPQPPPSQQPYLQLQP 80
   |||||
QY 61 F--PQ---PCLPYPPQSPFPQPPQPPYPPQPPYSPQPPIS-QQQAQQQQQQQQQQQQQQ 114
   |||||
DB 81 FLQPPQPPPPQLPPYSPQPPFPQPPQPPYPPQPPYSPQPPISQQQQQQQQQQQQQQQQQQ 140
   |||||
QY 115 LQQILQQQLPCMDVVLQGHNTAHARQVLTQSTYQLQELCCOHLWQIFEOSCCQAIHN 174
   |||||
DB 141 IQQILQQQLPCMDVVLQGHNTVHGKSVLQDSTYQLQELCCOHLWQIFEOSCCQAIHN 200
   |||||
QY 175 VVHAIIILH-----QQQKQQQPPSSQVSTFQPLQGYPLGG 209
   |||||
DB 201 VVHAIIILHQQQQQQQQEQKQLQQQQQQQQQLQQQQQQKQQQQPPSSQVSTFQPLQGYPLGG 260
   |||||
QY 210 SFRPSQNPQAQGSVQPPQLPQFEETRNLA 239
   |||||
DB 261 SFRPSQNPQAQGSVQPPQLPQFEETRNLA 290
   |||||
```

Search completed: December 14, 2004, 17:27:01

Job time : 16 secs

GenCore version 5.1.6  
Copyright (c) 1993 - 2004 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: December 14, 2004, 17:01:05 ; Search time 79 Seconds  
(without alignments)  
1937.337 Million cell updates/sec

Title: US-10-089-700-3-K65  
Perfect score: 1431  
Sequence: 1 VRVPVQLQPQNPSSQCPQE.....CNVTIAPCTIAPFGIFGTN 266

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1825181 seqs, 575374646 residues

Total number of hits satisfying chosen parameters: 1825181

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :  
1: uniprot\_sprot.\*  
2: uniprot\_trembl.\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	* Match Length	ID	Description
1	1368	95.6	Q9M4L7	Q9M4L7 triticum ae
2	1356	94.8	Q9M4L7	Q9M4L7 triticum ae
3	1356	94.8	AAA96525	AAA96525 triticum ae
4	1354	94.6	Q9ZP09	Q9ZP09 triticum ae
5	1350.5	94.4	Q9M4M5	Q9M4M5 triticum ae
6	1350.5	94.4	Q9M4M2	Q9M4M2 triticum ae
7	1345.5	94.0	Q9M4M5	Q9M4M5 triticum ae
8	1344	93.9	Q9M4L8	Q9M4L8 triticum ae
9	1341.5	93.7	Q9M4M0	Q9M4M0 triticum ae
10	1337.5	93.5	Q9M4M0	Q9M4M0 triticum ae
11	1330.5	93.0	Q9M4L1	Q9M4L1 triticum ae
12	1328.5	92.9	Q9M4L1	Q9M4L1 triticum ae
13	1315.5	91.9	Q9M4L1	Q9M4L1 triticum ae
14	1312	91.7	Q9M4L1	Q9M4L1 triticum ae
15	1299.5	90.8	Q9M4L1	Q9M4L1 triticum ae
16	1267.5	88.6	Q9M4L6	Q9M4L6 triticum ae
17	1267.5	88.6	Q9M4L6	Q9M4L6 triticum ae
18	1267.5	88.6	Q9M4L6	Q9M4L6 triticum ae
19	1263	88.3	Q9M4L6	Q9M4L6 triticum ae
20	1262	88.2	Q9M4L6	Q9M4L6 triticum ae
21	1261	88.1	Q9M4L6	Q9M4L6 triticum ae
22	1257	87.8	Q9M4L6	Q9M4L6 triticum ae
23	1254	87.6	Q9M4M4	Q9M4M4 triticum ae
24	1249	87.3	Q9M4M4	Q9M4M4 triticum ae
25	1248.5	87.2	Q9M4M4	Q9M4M4 triticum ae
26	1246	87.1	Q9M4M4	Q9M4M4 triticum ae
27	1235.5	86.3	Q9M4M4	Q9M4M4 triticum ae
28	1200.5	83.9	Q9M4M3	Q9M4M3 triticum ae
29	1197	83.6	Q9M4M3	Q9M4M3 triticum ae
30	1193	83.4	Q9M4M6	Q9M4M6 triticum ae
31	1183	82.7	Q9M4M6	Q9M4M6 triticum ae

32	933	65.2	186	1	GDAB_WHEAT	P04728 triticum ae
33	594.5	41.5	455	2	Q9P4L1	Q9P4L1 secale cere
34	590	41.2	308	2	Q9M6P7	Q9M6P7 triticum ae
35	590	41.2	311	2	Q9E8M9	Q9E8M9 triticum ae
36	590	41.2	327	1	Q94G91	Q94G91 triticum ae
37	589	41.2	327	1	Q9B2_WHEAT	Q9B2_WHEAT triticum ae
38	581	40.6	337	2	Q94G96	Q94G96 triticum ae
39	569	39.8	300	2	Q9FEA8	Q9FEA8 aegilops bi
40	569	39.8	300	2	Q9FUA1	Q9FUA1 aegilops lo
41	558.5	39.0	274	2	Q6EEX0	Q6EEX0 triticum ae
42	558.5	39.0	282	2	Q6EEX7	Q6EEX7 triticum ae
43	558.5	39.0	282	2	Q94G92	Q94G92 triticum ae
44	556.5	38.9	275	2	Q6EEM4	Q6EEM4 triticum tu
45	555	38.8	275	2	Q6EEM2	Q6EEM2 triticum tu

## ALIGNMENTS

## RESULT 1

Q9M4L7 PRELIMINARY; PRT; 269 AA.

AC Q9M4L7  
DT 01-OCT-2000 (TrEMBLrel. 15, Created)  
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)  
DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)  
DS Alpha-glutadin.  
OS Triticum aestivum (Wheat).  
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
OC Triciceae; Triticum.  
OX NCBI\_TaxID=4565;  
RN [1]  
RP SEQUENCE FROM N.A.  
RC STRAIN=Mjcelner; TISSUE=Endosperm;  
RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,  
RA Sollied L.M.;  
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
DR EMBL; AJ13611; CAB/6963.1; -.  
DR GO; GO:0045735; P:nutrient reservoir activity; IEA.  
DR InterPro; IPR003612; AAI.  
DR InterPro; IPR001376; Gliadin.  
DR InterPro; IPR001954; GliA\_gluenn.  
DR Pfam; PF00234; TYP\_alpha\_amy1; 1.  
DR PRINTS; PR00208; GLIADGUTEN.  
DR SMART; SM00499; AAI; 1.  
FT CHAIN 1 269  
SQ SEQUENCE 269 AA; 31292 MW; 87127D6FD15EC78B CRC64;

Query Match 95.6%; Score 1368; DB 2; Length 269;  
Best Local Similarity 96.2%; Pred. No. 14e-75;  
Matches 256; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY	1	VRVPVQLQPQNPSSQCPQE	Q9M4L7	Q9M4L7 triticum ae	60
QY	2	VRVPVQLQPQNPSSQCPQE	Q9M4L7	Q9M4L7 triticum ae	61
QY	61	FPQPKLPYQPSFPQPPQY	Q9M4L7	Q9M4L7 triticum ae	120
QY	62	FPQPKLPYQPSFPQPPQY	Q9M4L7	Q9M4L7 triticum ae	121
QY	121	Q9LIPGMDVVLQOHNAHRSQV	Q9M4L7	Q9M4L7 triticum ae	180
QY	122	Q9LIPGMDVVLQOHNAHRSQV	Q9M4L7	Q9M4L7 triticum ae	181
QY	181	LHQOQKQKQKQKQKQKQK	Q9M4L7	Q9M4L7 triticum ae	240
QY	182	LHQOQKQKQKQKQKQKQK	Q9M4L7	Q9M4L7 triticum ae	241
QY	241	QTLPAKCVYIAPCTIAPFGI	Q9M4L7	Q9M4L7 triticum ae	266
QY	242	QTLPAKCVYIAPCTIAPFGI	Q9M4L7	Q9M4L7 triticum ae	267

FT	VARIANT#	193	194	HN -> LK (in Ref. #).
SQ	SEQUENCE	286 AA;	32949 MM;	ESECFABBE29E10C6 CRC64;
Query Match		94.8%;	Score 1356;	DB 1; Length 286;
Best Local Similarity		95.5%;	Fred. No. 7.7e-75;	
Matches 254;	Conservative	1;	Mismatches 11;	Indels 0; Gaps 0
Dy	1 VRVVPQLPQPNSQQQPEQGVPLVWQQQPFPGQQQPPFQQPYQPQFPFSSQPYLQLQP			60
Dd	21 VRPVYQLDQPNPSQQLPQEGVPLVWQQQFLGQQQFPFPQPYQPFPFSQLPYLQLQP			80
Dy	61 FPQPKLPYPQSPFPQGPYPQPPQYSQPQPISSQQAQQQQQQQQQQQQQIILQILLQ			120
Dd	81 FPPQCLPYSQPPFPFPQGPYPQPPQYSQPQPISSQQAQQQQQQQQQQQQQIILQILLQ			140
Dy	121 QGLIPCMQDVLLQGNHIAFGRSQVLQGSTTYLLQLBELCCGHMQLPESQCCALHNVAHAI			180
Dd	141 QGLIPCMQDVLLQGNHIAFGRSQVLQGSTTYLLQLBELCCGHMQLPESQCCALHNVAHAI			200
Dy	181 LHQQKQQQQQSSQVSFPQPIQLQYPLQGSFRSSQNNPQAQSIVPQOLIPOFEERINLAL			240
Dd	201 LHQQKQQQQQSSQVSFPQPIQLQYPLQGSFRSSQNNPQAQSIVPQOLIPOFEERINLAL			260
Dy	241 QTLPAMCNVYIAPYCTIAPFGIFGTN 266			
Dd	261 QTLPAMCNVYIAPYCTIAPFGIFGTN 286			
RESULT 3				
AAA96525	PRELIMINARY;	PRT:	286 AA.	
AC	AAA96525;			
DT	02-MAR-2004 ('Tremblrel'. 27, Created)			
DT	02-MAR-2004 ('Tremblrel'. 27, Last sequence update)			
DT	02-MAR-2004 ('Tremblrel'. 27, Last annotation update)			
DE	Alpha-glutadin storage protein.			
OS	Triticum aestivum (wheat).			
OC	Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;			
OX	Magnoliophyta; Liliopsida; Poales; Poaceae; Triticum.			
NCBI	TaxID=4565;			
RN	[1] _			
RP	SEQUENCE FROM N.A.			
RC	SHRAIN=Cheyenne;			
RA	Anderson O.D.;			
RL	Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.			
DR	EMBL; U51307; AAA96525.1; -;			
SQ	SEQUENCE 286 AA; 32949 MM; ESECFABBE29E10C6 CRC64;			
Query Match		94.8%;	Score 1356;	DB 2; Length 286;
Best Local Similarity		95.5%;	Pred. No. 7.7e-75;	
Matches 254;	Conservative	1;	Mismatches 11;	Indels 0; Gaps 0;
Dy	1 VRVVPQLPQPNSQQQPEQGVPLVWQQQPFPGQQQPPFQQPYQPQFPFSSQPYLQLQP			60
Dd	21 VRPVYQLDQPNPSQQLPQEGVPLVWQQQFLGQQQFPFPQPYQPFPFSQLPYLQLQP			80
Dy	61 FPQPKLPYPQSPFPQGPYPQPPQYSQPQPISSQQAQQQQQQQQQQQQQIILQILLQ			120
Dd	81 FPPQCLPYSQPPFPFPQGPYPQPPQYSQPQPISSQQAQQQQQQQQQQQQQIILQILLQ			140
Dy	121 QGLIPCMQDVLLQGNHIAFGRSQVLQGSTTYLLQLBELCCGHMQLPESQCCALHNVAHAI			180
Dd	141 QGLIPCMQDVLLQGNHIAFGRSQVLQGSTTYLLQLBELCCGHMQLPESQCCALHNVAHAI			200
Dy	181 LHQQKQQQQQSSQVSFPQPIQLQYPLQGSFRSSQNNPQAQSIVPQOLIPOFEERINLAL			240
Dd	201 LHQQKQQQQQSSQVSFPQPIQLQYPLQGSFRSSQNNPQAQSIVPQOLIPOFEERINLAL			260
Dy	241 QTLPAMCNVYIAPYCTIAPFGIFGTN 266			
Dd	261 QTLPAMCNVYIAPYCTIAPFGIFGTN 286			



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QY      16 ILHQGKQQQQPSSSVSPFQQLQXPLQGSPRSSQONPPAQSGVCPQCLPFQEEIRNLNLA 239
DB      201 ILMHQQQQQQQQSSVSFSFGFLQXPLQDGSFRSSQQNPAGSSVGPQLPQPEIRNLNA 260
QY      240 LQTLPAMCNVYIAPYCTTAPAFGIPTGN 266
DB      261 LQTLPAMCNVYIPPYCTTAPAFGIPTGN 287

RESULT 8
QM4L8 ID QM4L8 PRELIMINARY; PRT; 277 AA.
AC QM4L8;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DI 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE Alpha-gliadin.
OS Triticum aestivum (Wheat).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;
CC Triticeae; Triticum.
CX NCBI_TaxID=4565;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Mjoelner; TISSUE=Endosperm;
RA Argent-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,
RA Sollid L.M.;
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
DR GML: AJ133610; CAB76962.1; -.
DR GO: GO:0045375; R:nutrient reservoir activity; IEA.
DR InterPro: IPRO03612; AAT.
DR InterPro: IPRO01376; Gliadin.
DR InterPro: IPRO01954; Gliadentin.
DR Pfam: PF00234; TRY_ alpha amy1. 1.
DR PRINTS: PR0208; GLIADGLUTEN.
DR PRINTS: PR0209; GLIADIN.
DR SMART: SM00499; AAT; 1.
FT CHAIN 1 277 alpha-gliadin.
SQ SEQUENCE 277 AA; 32371 MW; 73DB89D815E532SD CRC64;

Query Match 93.9%; Score 1344; DB 2; Length 277;
Best Local Similarity 92.7%; Pred. No. 4e-74;
Matches 254; Conservative 1; Mismatches 11; Indels 8; Gaps 1

QY      1 VRRPVVQLQPQNPSQQQLPQEQLPLYQQQQPFQSQQQQPPQCPHYQPDPFPSPQPYQLQP 60
DB      2 VRRPVVQLQPQNPSQHPEQEPVLVQQQQLFQGGQSFPQQPYPQEPFFSPSPYQLQP 61
QY      61 FPRPKLPYRPPQSPFPQCPYPPQCPQYYSQPPQPISS-----QQCAQQQQQQQQQQQQ 112
DB      62 FPRQPLPYQPQEFRRQCPYPPQCPQYYSQPPQPISSQQQQQQQQQQQQQQQQQQQQQQ 121
QY      113 QILQQLIQQLPLPCMDVVLQCHNIHAARSQYLQOSTYQLIQELCCQHLMOIPRQSCQA 172
DB      122 QILQQLIQQLPLPCMDVVLLQCHNIHAQRSQYLQOSTYQLIQELCCQHLMWGIPRQSCQA 181
QY      173 HNVVHAIIILHQQKKQQQQSSVSQSFQQLQCYPLPGSSFPSPSQONPPAQSSVPQQLPQF 232
DB      182 HNVVHAIIILHQQKKQQQQSSVSQSFQQLQCYPLPGSSFPSPSQONPPAQSSVPQQLPQF 241
QY      233 EEIRNLALQTLPMACNVYIAPYCTTAPAFGIPTGN 266
DB      242 EEIRNLALQTLPMACNVYIAPYCTTAPAFGIPTGN 275

RESULT 9
QM4M0 ID QM4M0 PRELIMINARY; PRT; 276 AA.
AC QM4M0;
DT 01-OCT-2000 (TrEMBLrel. 15, Created)
DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
DI 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
DE Alpha-gliadin.

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OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Poideae;  
 OC Triticeae; Triticum.  
 OC NCBI\_TaxID=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Mjoeleiner; TISSUE=Endosperm;  
 RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,  
 RA Solild L.M.;  
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
 DR EMBL: AJ133608; CAB76960.1; -  
 DR GO: GO:0045735; F: nutrient reservoir activity; IEA.  
 DR InterPro: IPR001376; Gliadin.  
 DR InterPro: IPR001376; Gliadin.  
 DR Pfam: PF00234; TYP\_alpha\_amy1; 1.  
 DR PRINTS: PR00208; GLIADGLUTEN.  
 DR SMART: SM00499; AAI; 1.  
 DR CHAIN 1  
 FT SEQUENCE 276 AA; 276 alpha-gliadin.  
 SQ 32211 MW; 6A2E9723D42B100A CRC64;  
 Query Match 93.7%; Score 1341.5; DB 2; Length 276;  
 Best Local Similarity 92.7%; Pred. No. 5.7e-74;  
 Matches 253; Conservative 3; Mismatches 10; Indels 7; Gaps 1;  
 QY 1 VRVVPQLOPQNPSSQSQPQEQVPLVQQQQFPFGQQQCFPPQQPYPPQPFPSQQPYLQLP 60  
 DB 2 VRVVPQLOPQNPSSQSQPQEQVPLVQQQQFLGQQQFPFPQPPQPPQPPFPQPPQPPQPP 61  
 QY 61 FPQPKLPYPQPSFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 113  
 DB 62 FPQPKLPYPQPSFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 121  
 QY 114 ILQQLIPQMDVVLQGHNIHARSQVLAQGSTYQLRLCCQHLMOIPESQCCAIHNVH 173  
 DB 122 ILQQLIPQMDVVLQGHNIHARSQVLAQGSTYQLRLCCQHLMOIPESQCCAIHNVH 181  
 QY 174 NVVHATILHQQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 233  
 DB 182 NVVHATILHQQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 241  
 QY 234 EIRNLAQLTPAMCNVTIAPYCTIAPFGIFGTN 266  
 DB 242 EIRNLAQLTPAMCNVTIAPYCTIAPFGIFGTN 274  
 RESULT 10  
 Q41531 PRELIMINARY; PRT; 289 AA.  
 ID Q41531  
 AC Q41531;  
 DT 01-NOV-1996 (TREMBlrel. 01, Created)  
 DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)  
 DT 01-MAR-2004 (TREMBlrel. 26, Last annotation update)  
 DE Alpha-gliadin storage protein.  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Poideae;  
 OC Triticeae; Triticum.  
 OC NCBI\_TaxID=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Cheyenne;  
 RA Anderson O.D.;  
 RL Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.  
 DR EMBL: U51306; AAA96524.1; -  
 DR PIR: S13333; S13333.  
 DR GO: GO:0045735; F: nutrient reservoir activity; IEA.  
 DR InterPro: IPR001376; Gliadin.  
 DR InterPro: IPR001376; Gliadin.  
 DR InterPro: IPR001376; Gliadin.  
 DR Pfam: PF00234; TYP\_alpha\_amy1; 1.

DR PRINTS: PR00208; GLIADGLUTEN.  
 DR PRINTS: PR00209; GLIADIN.  
 DR SMART: SM00499; AAI; 1.  
 DR SMART: SM00499; AAI; 1.  
 SQ SEQUENCE 289 AA; 33349 MW; 5F577C9CD63874FA CRC64;  
 Query Match 93.5%; Score 1337.5; DB 2; Length 289;  
 Best Local Similarity 94.1%; Pred. No. 1e-73;  
 Matches 253; Conservative 2; Mismatches 11; Indels 3; Gaps 1;  
 QY 1 VRVVPQLOPQNPSSQSQPQEQVPLVQQQQFPFGQQQCFPPQQPYPPQPFPSQQPYLQLP 60  
 DB 21 VRVVPQLOPQNPSSQSQPQEQVPLVQQQQFLGQQQFPFPQPPQPPQPPFPQPPQPPQPP 80  
 QY 61 FPQPKLPYPQPSFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 117  
 DB 81 FPQPKLPYPQPSFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 140  
 QY 118 ILQQLIPQMDVVLQGHNIHARSQVLAQGSTYQLRLCCQHLMOIPESQCCAIHNVH 177  
 DB 141 ILQQLIPQMDVVLQGHNIHARSQVLAQGSTYQLRLCCQHLMOIPESQCCAIHNVH 200  
 QY 178 AAILHQQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 237  
 DB 201 AAILHQQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 260  
 QY 238 LALQTLPMCNVTIAPYCTIAPFGIFGTN 266  
 DB 261 LALQTLPMCNVTIAPYCTIAPFGIFGTN 289  
 RESULT 11  
 Q9M4L9 PRELIMINARY; PRT; 270 AA.  
 ID Q9M4L9  
 AC Q9M4L9;  
 DT 01-OCT-2000 (TREMBlrel. 15, Created)  
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)  
 DT 01-MAR-2004 (TREMBlrel. 26, Last annotation update)  
 DE Alpha-gliadin.  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Poideae;  
 OC Triticeae; Triticum.  
 OC NCBI\_TaxID=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Mjoeleiner; TISSUE=Endosperm;  
 RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,  
 RA Solild L.M.;  
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
 DR EMBL: AJ133609; CAB76961.1; -  
 DR GO: GO:0045735; F: nutrient reservoir activity; IEA.  
 DR InterPro: IPR001376; Gliadin.  
 DR InterPro: IPR001376; Gliadin.  
 DR InterPro: IPR001376; Gliadin.  
 DR Pfam: PF00234; TYP\_alpha\_amy1; 1.  
 DR PRINTS: PR00208; GLIADGLUTEN.  
 DR PRINTS: PR00209; GLIADIN.  
 DR SMART: SM00499; AAI; 1.  
 DR CHAIN 1  
 FT SEQUENCE 270 AA; 31491 MW; 1DB4B6528EFAAF5 CRC64;  
 Query Match 93.0%; Score 1330.5; DB 2; Length 270;  
 Best Local Similarity 94.0%; Pred. No. 2.6e-73;  
 Matches 251; Conservative 4; Mismatches 11; Indels 1; Gaps 1;  
 QY 1 VRVVPQLOPQNPSSQSQPQEQVPLVQQQQFPFGQQQCFPPQQPYPPQPFPSQQPYLQLP 60  
 DB 2 VRVVPQLOPQNPSSQSQPQEQVPLVQQQQFLGQQQFPFPQPPQPPQPPFPQPPQPPQPP 61  
 QY 61 FPQPKLPYPQPSFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 119  
 DB 62 FPQPKLPYPQPSFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 121

QY 120 GQOILPCMDVYLQOHNIHARSQVILQSTYQLQELCCQHLMOIPESQCCAIHNVVHAI 179  
 DB 122 GQOILPCMDVYLQOHNIHARSQVILQSTYQLQELCCQHLMOIPESQCCAIHNVVHAI 181  
 QY 180 IHHOQKQOQSSQSVFQOQPLQOYPLQGSFRPSCQNPQAGSVQOQPLQOYPLQOY 239  
 DB 182 IHHOQKQOQSSQSVFQOQPLQOYPLQGSFRPSCQNPQAGSVQOQPLQOYPLQOY 241  
 QY 240 IOTLPAMCNVYIAPYCTIAPFGIFGTN 266  
 DB 242 IOTLPAMCNVYIAPYCTIAPFGIFGTN 268

## RESULT 12

QY4M1 PRELIMINARY; PRT; 278 AA.

AC Q9M4M1; PRELIMINARY; PRT; 278 AA.  
 DT 01-OCT-2000 (TREMELrel. 15, Created)  
 DT 01-OCT-2000 (TREMELrel. 15, Last sequence update)  
 DT 01-MAR-2004 (TREMELrel. 26, Last annotation update)  
 DB Alpha-glialdin.  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticaceae; Triticum.  
 OX NCBI\_Taxid=4565;

RA [1] SEQUENCE FROM N.A.  
 RC STRAIN=Mjoleiner; TISSUE=Endosperm;  
 RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,  
 RA Solild L.M.;  
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
 DB EMBL; A133607; CAB76959.1; -;  
 DB GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DB InterPro; IPR003612; AAI.  
 DB InterPro; IPR001376; Gliadin.  
 DB InterPro; IPR001954; G1ia\_gluenin.  
 DB Pfam; PF00234; TYP\_alpha\_amy1; 1.  
 DB PRINTS; PR0208; GLIADGLUTEN.  
 DB PRINTS; PR0209; GLIADIN.  
 DB SMART; SMC0499; AAI; 1.  
 FT CHAIN 1 278 alpha-glialdin.  
 SQ SEQUENCE 278 AA; 32502 MW; COB5BFD10DC87D CRC64;

Query Match 92.9%; Score 1329.5; DB 2; Length 278;  
 Best Local Similarity 92.0%; Pred. No. 3e-73;  
 Matches 253; Conservative 2; Mismatches 11; Indels 9; Gaps 1;

QY 1 VAVPVQLQPNPSSQOQPEQVPLVQOQFPQOQOQFPQOQOQFPQOQOQFPQOQOQFPQOQOQ 60  
 DB 2 VAVPVQLQPNPSSQOQPEQVPLVQOQFPQOQOQFPQOQOQFPQOQOQFPQOQOQFPQOQOQ 61  
 QY 61 FPGQPLPYQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPS 111  
 DB 62 FPGQPLPYQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPS 121  
 QY 112 GQOILQOQOQILQOQOQILQOQOQILQOQOQILQOQOQILQOQOQILQOQOQILQOQOQILQOQOQ 171  
 DB 122 GQOILQOQOQILQOQOQILQOQOQILQOQOQILQOQOQILQOQOQILQOQOQILQOQOQILQOQOQ 181  
 QY 172 IHHVVAHIIHQQKQOQSSQSVFQOQPLQOYPLQGSFRPSCQNPQAGSVQOQPLQOYPLQOY 231  
 DB 182 IHHVVAHIIHQQKQOQSSQSVFQOQPLQOYPLQGSFRPSCQNPQAGSVQOQPLQOYPLQOY 241  
 QY 233 FEEIRNLALQTLFAMCNVYIAPYCTIAPFGIFGTN 266  
 DB 242 FEEIRNLALQTLFAMCNVYIAPYCTIAPFGIFGTN 276

## RESULT 13

QY4M1 PRELIMINARY; PRT; 259 AA.

AC Q41533; PRELIMINARY; PRT; 259 AA.  
 DT 01-OCT-2000 (TREMELrel. 01, Created)  
 DT 01-OCT-2000 (TREMELrel. 01, Last sequence update)  
 DT 01-MAR-2004 (TREMELrel. 26, Last annotation update)  
 DB Alpha-glialdin storage protein.  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticaceae; Triticum.  
 OX NCBI\_Taxid=4565;

DT 01-NOV-1996 (TREMELrel. 01, Created)  
 DT 01-NOV-1996 (TREMELrel. 01, Last sequence update)  
 DT 01-MAR-2004 (TREMELrel. 26, Last annotation update)  
 DB Alpha-glialdin (Fragment).  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticaceae; Triticum.  
 OX NCBI\_Taxid=4565;

RA [1] SEQUENCE FROM N.A.  
 RC MEDLINE=98409296; PubMed=9738916;  
 RA Maryama N., Ichise K., Katsube T., Kishimoto T., Kawase S.,  
 RA Matsumura Y., Takeuchi Y., Sawada T., Utsuni S.;  
 RT "Identification of major wheat allergens by means of the Escherichia  
 RT coli expression system";  
 RL Eur. J. Biochem. 255:739-745 (1998).  
 DB EMBL; D84341; BAA12318.1; -;  
 DB GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DB InterPro; IPR003612; AAI.  
 DB InterPro; IPR001376; Gliadin.  
 DB InterPro; IPR001954; G1ia\_gluenin.  
 DB Pfam; PF00234; TYP\_alpha\_amy1; 1.  
 DB PRINTS; PR0208; GLIADGLUTEN.  
 DB PRINTS; PR0209; GLIADIN.  
 DB SMART; SMC0499; AAI; 1.  
 FT NON TER 1 259  
 FT CHAIN 1 259 alpha-glialdin mature peptide.  
 SQ SEQUENCE 259 AA; 29996 MW; F536CD48F8F54C6 CRC64;

Query Match 91.9%; Score 1315.5; DB 2; Length 259;  
 Best Local Similarity 93.2%; Pred. No. 2e-72;  
 Matches 248; Conservative 2; Mismatches 9; Indels 7; Gaps 1;

QY 1 VAVPVQLQPNPSSQOQPEQVPLVQOQFPQOQOQFPQOQOQFPQOQOQFPQOQOQFPQOQOQ 60  
 DB 1 VAVPVQLQPNPSSQOQPEQVPLVQOQFPQOQOQFPQOQOQFPQOQOQFPQOQOQFPQOQOQ 60  
 QY 61 FPGQPLPYQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPS 120  
 DB 61 FPGQPLPYQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPSQPS 113  
 QY 121 GQOILPCMDVYLQOHNIHARSQVILQSTYQLQELCCQHLMOIPESQCCAIHNVVHAI 180  
 DB 114 GQOILPCMDVYLQOHNIHARSQVILQSTYQLQELCCQHLMOIPESQCCAIHNVVHAI 173  
 QY 181 IHHOQKQOQSSQSVFQOQPLQOYPLQGSFRPSCQNPQAGSVQOQPLQOYPLQOY 240  
 DB 174 IHHOQKQOQSSQSVFQOQPLQOYPLQGSFRPSCQNPQAGSVQOQPLQOYPLQOY 233  
 QY 241 QTLFAMCNVYIAPYCTIAPFGIFGTN 266  
 DB 234 QTLFAMCNVYIAPYCTIAPFGIFGTN 259

## RESULT 14

QY4M1 PRELIMINARY; PRT; 288 AA.

AC Q41530; PRELIMINARY; PRT; 288 AA.  
 DT 01-NOV-1996 (TREMELrel. 01, Created)  
 DT 01-NOV-1996 (TREMELrel. 01, Last sequence update)  
 DT 01-MAR-2004 (TREMELrel. 26, Last annotation update)  
 DB Alpha-glialdin storage protein.  
 OS Triticum aestivum (Wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticaceae; Triticum.  
 OX NCBI\_Taxid=4565;

RA [1] SEQUENCE FROM N.A.  
 RC STRAIN=Cheyenne;  
 RA Anderson O.D.;  
 RL Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.





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GenCore version 5.1.6  
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CM protein - protein search, using sw model

Run on: December 14, 2004, 17:00:05 ; Search time 76.6667 Seconds  
(without alignments)  
1244.635 Million cell updates/sec

Title: US-10-089-700-3-P65  
Perfect score: 1433  
Sequence: 1 VAVPVQLOQPNPQQQPE.....CNVYAPYCTIAPFGIFGTN 266

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2002273 seqs, 35872929 residues

Total number of hits satisfying chosen parameters: 2002273

Minimum DB seq length: 0  
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :  
1: Geneseqp23Sep04:\*  
2: Geneseqp1990s:\*  
3: Geneseqp2000s:\*  
4: Geneseqp2001s:\*  
5: Geneseqp2002s:\*  
6: Geneseqp2003as:\*  
7: Geneseqp2003bs:\*  
8: Geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1425	99.4	266	AAU01799	AAU01799 Wheat A-G
2	1425	99.4	266	ADH14513	ADH14513 A-gliadin
3	1265.5	88.3	290	AAE38574	AAE38574 Wheat alp
4	1265.5	88.3	290	ADP19626	ADP19626 Alpha-2-G
5	463	32.3	369	AAW62647	AAW62647 Mature du
6	454.5	31.7	297	ADQ71669	ADQ71669 Amino aci
7	441.5	30.8	298	ADQ71661	ADQ71661 Amino aci
8	438.5	30.6	307	ADH89338	ADH89338 T. aestiv
9	438.5	30.6	307	ADG44134	ADG44134 T. aestiv
10	289.5	20.2	1798	ABH71695	ABH71695 Drosophi
11	271	18.9	2285	AAH63057	AAH63057 Drosophi
12	266	18.6	1162	AAV96255	AAV96255 Kaposi's
13	266	18.6	1162	AAV58500	AAV58500 HHV8 ORF
14	266	18.6	1162	AAH62331	AAH62331 Amino aci
15	266	18.6	1162	ABH05621	ABH05621 Kaposi's
16	266	18.6	1162	ADJ65096	ADJ65096 HHV8 late
17	264.5	18.5	1069	ABO030905	ABO030905 Human pol
18	264.5	18.5	1069	ABO07138	ABO07138 Novel hum
19	264.5	18.5	1069	ADJ37233	ADJ37233 Human nuc
20	259	18.1	905	ABG3053	ABG3053 S. cerevi
21	259	18.1	905	ABH53130	ABH53130 Protein s
22	259	18.1	905	ADH62364	ADH62364 Disease t
23	253	17.7	186	ADH89336	ADH89336 H. vulgar
24	253	17.7	186	ADG44132	ADG44132 H. vulgar
25	253	17.7	260	ADQ47673	ADQ47673 Amino aci

## ALIGNMENTS

26	248.5	17.3	900	4	ABH62018
27	242	16.9	1013	4	ABH71039
28	239	16.7	358	7	ADH65556
29	237.5	16.6	1069	4	ABH61305
30	237.5	16.6	1142	7	ADQ79968
31	236	16.5	2237	5	ABG70004
32	236	16.5	2703	4	ABH60074
33	231.5	16.2	149	4	AAH72673
34	231	16.1	160	7	ADH89335
35	231	16.1	160	8	ADG44131
36	231	16.1	4365	8	ABU02252
37	230.5	16.1	1902	6	ABU38695
38	230	16.1	1761	4	ABH59512
39	228	15.9	158	3	AAV54568
40	228	15.9	2280	4	ABH61650
41	228	15.9	4952	8	ADL25642
42	227	15.8	4952	5	ADH47759
43	227	15.8	4952	7	ADP68294
44	227	15.8	5159	5	ADH48828
45	226.5	15.8	863	4	ABH61004

RESULT 1  
AAU01799 standard; protein; 266 AA.  
ID AAU01799 standard; protein; 266 AA.

AAU01799;

07-SEP-2001 (first entry)

Wheat A-gliadin.

Wheat; A-gliadin; epitope; coeliac disease; gluten intolerance;  
T-cell binding; antagonist; transglutaminase; transgenic plant.

Triticum aestivum.

WO200125793-A2.

12-APR-2001.

02-OCT-2000; 2000MO-GB003760.

01-OCT-1999; 99GB-00023306.

(ISIS-) ISIS INNOVATION LTD.

Anderson RP, Hill AVS, Jewell DP;

WPI; 2001-300179/31.

Diagnosing coeliac disease or susceptibility to the disease in an  
individual, by detecting in vitro or in vivo T cells which bind  
immunodominant T cell epitope obtained from naturally occurring homolog  
of gliadin.

Claim 1; Page 52; 107P; English.

The sequence represents wheat A-gliadin. A-gliadin derived peptides of  
the invention are used to test mammalian (preferably human)  
susceptibility to coeliac disease (gluten intolerance). The peptides are  
contacted with a blood sample and T cell recognition measured, a positive  
T-cell recognition indicating a susceptibility to coeliac disease. The  
peptides are useful for inducing tolerance in an individual and  
antagonists to the peptides are useful for treating or preventing coeliac  
disease in an individual and for producing an antibody specific to them  
or a wild-type sequence. A mutant gliadin protein (or its fragment of 15  
amino acids in length) whose wild-type sequence can be modified by  
transglutaminase to a sequence that comprises the epitope, but which has  
been modified in such a way that it does not contain sequence which can

CC be modified by transglutaminase to a sequence that comprise the epitope  
 CC is useful for decreasing the ability of gliadin protein to cause Coeliac  
 CC disease. Nucleic acids encoding proteins antagonistic to the T-cell  
 CC binding of the epitopes are useful for obtaining a transgenic plant cell  
 CC or seed and for the production of a protein. The resultant crop plant is  
 CC useful for obtaining a product of a wheat plant, especially grain, which  
 CC is optionally processed into flour or another grain product. Food  
 CC comprising the antagonistic protein is useful instead of a wild-type  
 CC gliadin

CC Sequence 266 AA;

Query Match 99.4%; Score 1425; DB 4; Length 266;  
 Best Local Similarity 99.6%; Pred No. 2.5e-114;  
 Matches 265; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 VRYPVQLQPNPSQQQPEQVPLVQQQFPQSQQQFPQCPYPQPPFPSSQQPYLQLP 60  
 DB 1 VRYPVQLQPNPSQQQPEQVPLVQQQFPQSQQQFPQCPYPQPPFPSSQQPYLQLP 60  
 QY 61 FPQPLPYRPPQSPFPQCPYPQPPQYSGPQPISSQQQAQQQQQQQQQQQQQQLIQQLIQ 120  
 DB 61 FPQPLPYRPPQSPFPQCPYPQPPQYSGPQPISSQQQAQQQQQQQQQQQQQQLIQQLIQ 120  
 QY 121 QQLIPGMDVVLQOHNIHARSQVLOQSTYQLLQELCCOHLWQIPQSQQAHHNVVHAII 180  
 DB 121 QQLIPGMDVVLQOHNIHARSQVLOQSTYQLLQELCCOHLWQIPQSQQAHHNVVHAII 180  
 QY 181 LHQQQKQQQQSSQVSPQPLQOYPLGQGSFRPSQONPAQGSVQPOLPQFEETRNLAL 240  
 DB 181 LHQQQKQQQQSSQVSPQPLQOYPLGQGSFRPSQONPAQGSVQPOLPQFEETRNLAL 240  
 QY 241 QTLPMCMNYIAFYCTIAPFGIFGTN 266  
 DB 241 QTLPMCMNYIAFYCTIAPFGIFGTN 266

# RESULT 2

ID ADH14513 standard; protein; 266 AA.

ADH14513;

11-MAR-2004 (first entry)

A-gliadin protein sequence SEQ ID NO:3.

coeliac disease; gliadin; gliadin T cell epitope; gastrointestinal;  
 vaccine.

Synthetic.

WO2003104273-A2.

18-DEC-2003.

05-JUN-2003; 2003WO-CB002450.

05-JUN-2002; 2002GB-00012885.

(ISIS-) ISIS INNOVATION LTD.

Anderson RP, Hill AVS, Jewell DP;

WPI, 2004-043640/04.

preventing or treating coeliac disease comprises administering agent  
 which are wheat gliadin T cell epitope capable of being recognized by T  
 cell receptor.

Example 1; SEQ ID NO 3; 177bp; English.

The present invention describes a method (M1) for preventing or treating

CC coeliac disease. M1 comprises administering an agent (A) comprising a  
 CC gliadin T cell epitope, which is capable of being recognised by a T cell  
 CC receptor; to an individual. Gliadin is a component of gluten. (A) has  
 CC gastrointestinal activity, and can be used in vaccines. The agent (A) can  
 CC be used in the preparation of a medicament for treating or preventing  
 CC coeliac disease. (A) can also be used in the preparation of a diagnostic  
 CC means for use in diagnosing coeliac disease, or susceptibility to coeliac  
 CC disease, in an individual, which involves determining whether T cells of  
 CC the individual recognise the agent, recognition by the T cells indicating  
 CC that the individual has, or is susceptible to, coeliac disease. The  
 CC present sequence represents a protein which is used in the  
 CC exemplification of the present invention.

CC Sequence 266 AA;

Query Match 99.4%; Score 1425; DB 8; Length 266;  
 Best Local Similarity 99.6%; Pred. No. 2.5e-114;  
 Matches 265; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 VRYPVQLQPNPSQQQPEQVPLVQQQFPQSQQQFPQCPYPQPPFPSSQQPYLQLP 60  
 DB 1 VRYPVQLQPNPSQQQPEQVPLVQQQFPQSQQQFPQCPYPQPPFPSSQQPYLQLP 60  
 QY 61 FPQPLPYRPPQSPFPQCPYPQPPQYSGPQPISSQQQAQQQQQQQQQQQQQQLIQQLIQ 120  
 DB 61 FPQPLPYRPPQSPFPQCPYPQPPQYSGPQPISSQQQAQQQQQQQQQQQQQQLIQQLIQ 120  
 QY 121 QQLIPGMDVVLQOHNIHARSQVLOQSTYQLLQELCCOHLWQIPQSQQAHHNVVHAII 180  
 DB 121 QQLIPGMDVVLQOHNIHARSQVLOQSTYQLLQELCCOHLWQIPQSQQAHHNVVHAII 180  
 QY 181 LHQQQKQQQQSSQVSPQPLQOYPLGQGSFRPSQONPAQGSVQPOLPQFEETRNLAL 240  
 DB 181 LHQQQKQQQQSSQVSPQPLQOYPLGQGSFRPSQONPAQGSVQPOLPQFEETRNLAL 240  
 QY 241 QTLPMCMNYIAFYCTIAPFGIFGTN 266  
 DB 241 QTLPMCMNYIAFYCTIAPFGIFGTN 266

# RESULT 3

AAE38574 standard; protein; 290 AA.

AAE38574;

04-DEC-2003 (first entry)

Wheat alpha-2 gliadin protein.

wheat; therapy; coeliac sprue; dermatitis herpetiformis; gluten toxicity;  
 glutenase; foodstuff; anti-inflammatory; dermatological; alpha-2 gliadin.

Trifolium aestivum.

WO2003068170-A2.

21-AUG-2003.

14-FEB-2003; 2003WO-US004743.

14-FEB-2002; 2002US-0357238P.

14-MAY-2002; 2002US-0380761P.

28-OCT-2002; 2002US-0392782P.

31-OCT-2002; 2002US-0422833P.

20-NOV-2002; 2002US-0428033P.

20-DEC-2002; 2002US-0435881P.

(STRD) UNIV IELAND STANFORD JUNIOR.

Hausch F, Gray G, Shan L, Khosla C;

WPI, 2003-697466/66.



XX The present sequence represents the mature glutenin protein. The DNA  
 CC sequence encoding this protein is isolated from the genomic DNA of  
 CC Triticum durum L. The gene codes for a low-molecular-weight glutenin  
 CC protein and can be used to produce transgenic durum wheat plants with  
 CC "better quality characteristics" (no details given). (Updated on 25-MAR-  
 CC 2003 to correct PI field.) (Updated on 17-OCT-2003 to standardise OS  
 CC field)

SQ Sequence 369 AA;

Query Match 32.3%; Score 463; DB 2; Length 369;  
 Best Local Similarity 40.2%; Pred. No. 1.8e-31;  
 Matches 134; Conservative 32; Mismatches 87; Indels 80; Gaps 14;

6 PQLQENPSQQPP---QEVPLVQQQQPPGQQQQPP---PQQPYRQPPF----- 50  
 DB PQQQPCSQQQQQPPPLSQQQQQPPPSQQQQPPVLPQQPSPSQQLPSPFSQQQPP 97  
 QY 51 ---SQQPVL-----QLOPFPQPLPYPQPSFPQQ-----PYBPQPOYSQ 89  
 DB 98 FSGQQQPVLPQQPSFSQQQLPSPSQQLPSPFSQQQVLPQQPSPFSQQQPPFSQ 157  
 QY 90 PQQPISQQQAQQQQQQQQ-----QQQQQQQLLQ-----LLQQQLPCMDVVLQ 132  
 DB 158 QQQPVLPQQPSPSQQQQQPPPPQSPFSQQQQPVLLQQQLPFPHPSTLLQLNPPC-KVFLQ 216  
 QY 133 QH-----NIHARSGVLOOSTYQLQLQLCCGLMWQIPROSCQAIHNVVHAILHQGX 186  
 DB 217 QQQSPAMPQSLARSQMLQQSSCHWQQCCQLPQIPQSSRYEAIIRAVISIL--OEQ 274  
 QY 187 QQQQSSQVSPQQPLQGVLYGQSGSPPSQGNPQAQGS-----VQPPQLPQFE 234  
 DB 275 QGVQSGIQVQQQQPPQ---LGGCVSGPQQSQQQGQQQQLAHGTFLQPHQAQLGV 331  
 QY 235 IKNLAIQTLPMKCNVIYIARY--CTIAPRGIPTGT 265  
 DB 332 MTSIALRTLPIMCMNVPLRYRTTRVPSGV-GT 363

RESULT 6  
 ID ADO71669 standard; protein; 297 AA.  
 XX ADO71669;  
 AC  
 XX 12-AUG-2004 (first entry)  
 DT  
 XX Amino acid sequence of a modified glutenin LMW subunit.  
 DE  
 XX low molecular weight subunit; LMW subunit; glutenin;  
 KW wheat cultivar Cheyenne; gliadin; flour; tablet; coeliac disease;  
 KM gluten intolerance.  
 XX Triticum sp.  
 OS Synthetic.  
 XX EPI424342-A1.  
 PD 02-JUN-2004.  
 XX  
 PF 27-NOV-2002; 2002EP-00026461.  
 XX  
 PR 27-NOV-2002; 2002EP-00026461.  
 XX  
 XX (BAKE-) BAKEMARK DEUT GMBH.  
 PA (MONG) MONSANTO AGRAR DEUT GMBH.  
 PA (UNIF-) UNIFERN GMBH & CO KG.  
 PA (PURA-) PURATOS NV.  
 XX  
 PI Hinzmann E, Wieser H, Stahl U;  
 XX  
 DR WPI, 2004-402870/38.

DR N-PSDB; ADO71668.

XX Novel nucleic acid comprising sequence encoding modified glutenin  
 PT polypeptide, useful for preparing modified glutenin polypeptide as  
 PT gliadin substitute in foodstuffs such as dough, pastries and waters.  
 XX Claim 16; Fig 11; 43pp; English.

XX The present sequence represents a modified low molecular weight (LMW)  
 CC subunit of glutenin. The wild type subunit is designated clone LMW6, and  
 CC is isolated from wheat cultivar Cheyenne. The LMW6 polypeptide does not  
 CC contain the allergenic epitope QQQPP, and shows some minor differences to  
 CC published sequences. It therefore represents a new allele for LMW subunit  
 CC genes. The LMW6 polypeptide was modified to produce modified glutenin  
 CC polypeptides of the invention. In these modified polypeptides one or more  
 CC cysteine residues responsible for intermolecular cross linking through  
 CC disulfide bridges are deleted or substituted. The modified glutenin  
 CC polypeptide is useful as a gliadin substitute. It is also useful in the  
 CC preparation of foodstuffs, such as flour or for the preparation of  
 CC pharmaceutical products, such as tablets, where the foodstuffs contain a  
 CC considerably reduced amount of gliadin proteins or no gliadin proteins.  
 CC Pharmaceutical compositions comprising the modified polypeptide of the  
 CC invention are useful for treating patients suffering from coeliac disease  
 CC or persons who are intolerant to gluten.

SQ Sequence 297 AA;

Query Match 31.7%; Score 454.5; DB 8; Length 297;  
 Best Local Similarity 42.5%; Pred. No. 7.6e-31;  
 Matches 121; Conservative 37; Mismatches 88; Indels 39; Gaps 12;

QY 5 VPLQDQNPBQQQPDQVFLVQQQPPGQQQQPPPPQPPYPQPPSPSQQVYLQD-PPQ 63  
 DB 18 IAKMETSIGLERFWMQQQLQCKRPP---QQPSSQ---QQQPPQPPFLQQQPSFSQ 71  
 QY 64 PPLPYRQPSFPQQPYRQPPQPPYSGPPQ-PSQQQAQQQQQQQQQQQLLQOI---- 118  
 DB 72 QPLFSQIQQPVLPQQPSPSQQQQTVLPQQPSPSQQQHQLLQQQPIVHPSTLLQLNPPK 131  
 QY 119 --LQQQLPCMDVVLQENIARSGVLYQSTYQLQLCCGLMWQIPROSCQAIHNVV 176  
 DB 132 VFLQQQ---CSPVAMQH---LARSQMWQSSCNVWQQCCQLPRIPRSGRYEAIIRAI 185  
 QY 177 HAILHQGX-----QQQPSQV-SFQQPLQ-QYPIGQSGF-----RPSQGNQ 219  
 DB 186 FSIILQHQDQGVQPPQQQPPQSGVVPQQQSQQLQSGSFPQPPQQLGQQPQQQVQ 245  
 QY 220 AGGSVQPPQLPQFEIRNLALQTLPMKCNVIYIARYCTI--APFGI 262  
 DB 246 KGTFLQPHQIARLEWTSIALRTLPIMCSVNPVLSISAPLGV 290

RESULT 7

ID ADO71661 standard; protein; 298 AA.

XX ADO71661;  
 AC  
 XX 12-AUG-2004 (first entry)  
 DT  
 XX Amino acid sequence of glutenin clone LMW6.  
 DE  
 XX low molecular weight subunit; LMW subunit; glutenin;  
 KW wheat cultivar Cheyenne; gliadin; flour; tablet; coeliac disease;  
 KM gluten intolerance.  
 XX Triticum sp.  
 OS  
 XX  
 PF Key Location/Qualifiers  
 FT Disulfide-bond 25  
 FT bond /note = this residue forms an intermolecular disulfide  
 FT Disulfide-bond 227

```

FT      /note = this residue forms an intermolecular disulfide
FT      bond
FN      EP1424342-A1.
FD      02-JUN-2004.
PE      27-NOV-2002; 2002EP-00026461.
PR      27-NOV-2002; 2002EP-00026461.
PA      (BAKE-) BAKEMARK DEUT GMBH.
PA      (MONS) MONSANTO AGRAR DEUT GMBH.
PA      (UNIF-) UNIFERN GMBH & CO KG.
PA      (PURA-) PURATOS NV.
PI      Hinzmann E, Wieser H, Stahl U;
DR      WPI; 2004-402870/38.
XX      N-PSDB; ADO71660.
PT      Novel nucleic acid comprising sequence encoding modified glutenin
PT      polypeptide, useful for preparing modified glutenin polypeptide as
PT      gliadin substitute in foodstuffs such as dough, pastries and wafers.
PX      Example 1; Fig 5; 43p; English.
XX      The present sequence represents a low molecular weight (LMW) subunit of
XX      glutenin, and is derived from clone LMW6 which is isolated from wheat
XX      cultivar Cheyenne. The LMW6 polypeptide does not contain the allergenic
XX      epitope QQQPf, and shows some minor differences to published sequences.
XX      It therefore represents a new allele for LMW glutenin genes. The LMW6
XX      polypeptide was modified to produce modified glutenin polypeptides of the
XX      invention. In these modified polypeptides one or more cysteine residues
XX      responsible for intermolecular cross linking through disulfide bridges
XX      are deleted or substituted. The modified glutenin polypeptide is useful
XX      as a gliadin substitute. It is also useful in the preparation of
XX      foodstuffs, such as flour or for the preparation of pharmaceutical
XX      products, such as tablets, where the foodstuffs contain a considerably
XX      reduced amount of gliadin proteins or no gliadin proteins. Pharmaceutical
XX      compositions comprising the modified polypeptide of the invention are
XX      useful for treating patients suffering from coeliac disease or persons
XX      who are intolerant to gluten.
SQ      Sequence 298 AA;
Query Match          30.8%; Score 441.5; DB 8; Length 298;
Best Local Similarity 42.2%; Pred. No. 1e-29;
Matches 119; Conservative 34; Mismatches 80; Indels 49; Gaps 12.
QY      13 PSQQCPQSECVPLVGGGQGFPGGCGQFPFPPQGPYQPPFFSGQPYLGLQP-FPPPLPYQPF 71
    ::::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
DQ      27 PLELRPMWQQQPHQCKETFP---QQEPPSSG---QQGPFPPQDPFLQQGPSFGQPFSGKQ 80
    ::|||:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
QY      72 QSFPPQGPYPQGPQGYSGPPQPF-ISQQQAQQGQQGQQGQQGQQGQQIILQGI-----LQQQLI 124
    :|||:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
DQ      81 QVRLPQQPAPFSQQGQTVLRFQGFALFSGQHQLLQQDIPIVHSHIIQLNPKCFVFLQQG-- 138
    |||:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
QY      125 PCMDVYLQGHNTAHARSQVLAQGSTYQLIGELCCGHLIMQIPEDSGCCQALHNVAHAIILHQQ 184
    :|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
DQ      139 -CSYAMPQH--LARSQMWQSSGNVMQQGCCQQLFRIPESRFEALIRAILFIILQEQ 194
    |:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
QY      185 QR-----QQGQSSSQYS-----PQPLIQXYPFLGGSRPESQNPQAG 222
    :|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
DQ      195 QGFWVPQQGQPPQGSYGVPYQPGQSQQQLGSCFFQDPQQG--LGG---QPDQQOVQKST 249
    :|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
QY      223 SVQPOQLPQFEERINLATQTLPAMCNVYTAFYCTI--AEFGI 262
    :|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
DQ      250 FLQPHQIARLEWMTSLARTLPFMGVCNNVPLIVSIISADLVG 291

```

ID ADH89338 standard; protein; 307 AA.  
 AC ADH89338;  
 XX  
 XX DT 06-MAY-2004 (first entry)  
 XX  
 DE T. aestivum LMW glutenin-1D1 protein.  
 XX  
 XX double stranded RNA; storage protein; 2S-albumen; 7S-globulin;  
 KM 11S/12S-globulin; zein-prolamine; homocysteinate metabolic pathway;  
 KM pharmaceutical; plant; abiotic stress; fatty acid composition;  
 KM lipid composition; oil composition; carbohydrate composition; colour;  
 KM pigmentation; pathogen resistance; fruit ripening delay; aging;  
 KM male sterility; lignin; fibre; cotton; Vitamin E synthesis; nicotine;  
 KM caffeine; theophylline; threonine biosynthesis; glutenin.  
 XX  
 XX Triticum aestivum.  
 OS  
 XX MO2003078629-A1.  
 XX  
 XX 25-SEP-2003.  
 PD  
 XX 17-MAR-2003; 2003WO-EP002735.  
 PE  
 XX 20-MAR-2002; 2002DE-01012892.  
 PR  
 XX (BADI ) BASF PLANT SCI GMBH.  
 PA  
 PI Kock M, Bauer J;  
 DR WPI, 2003-603889/75.  
 DR N-PsDB; ADH89337.  
 XX  
 PT Producing expression of at least two target genes, useful e.g. for  
 PT producing transgenic plants, using partly double-stranded interfering  
 PT RNA.  
 XX  
 PS Disclosure; SEQ ID NO 113; 228bp; German.  
 XX  
 XX This invention describes a novel method for reducing the expression of at  
 XX least two different endogenous target genes in a eukaryotic cell or  
 CC organism by introducing an RNA molecule that is at least partly double  
 CC stranded. The transcribed RNAs from at least two target genes have  
 CC homology below 90% and the RNA molecule is formed as a single, self-  
 CC complementary molecule. At least one of the double-stranded structures  
 CC formed from individual sense sequences has an even number of repeats of  
 CC 21 or 22 bp. The RNA molecule may include an intron-encoding sequence. At  
 CC least two target genes are selected from different classes of storage  
 CC protein genes, i.e. 2S-albumen, 7S- or 11S/12S-globulins or zein-  
 CC prolamine and at least one of the sense sequences is identical to storage  
 CC protein sequences or genes in the homocysteinate metabolic pathway or  
 CC enzyme types, e.g. acetyl transferases, thioesterases, (de)branching  
 CC enzymes or cellulases. The RNA of the invention, also related cassettes,  
 CC expression systems, vectors and transgenic organisms are used for  
 CC preparation of pharmaceuticals, in biotechnological processes and plant  
 CC biotechnology, specifically in plants to improve protection against  
 CC abiotic stress, to modify composition and/or content of fatty acids,  
 CC lipids and oils, to modify carbohydrate composition, to alter colour or  
 CC pigmentation, to reduce content of storage proteins, to increase  
 CC resistance to pathogens, to inhibit stem break, to delay fruit ripening  
 CC or aging, to induce male sterility, to reduce content of toxic or  
 CC unwanted components, to modify lignification and/or lignin content, to  
 CC modify the fibre component in foods or fibre quality in cotton, to reduce  
 CC susceptibility to shock, to increase synthesis of Vitamin E, to reduce  
 CC contents of nicotine, caffeine or theophylline and to increase methionine  
 CC content, by reducing threonine biosynthesis. The method provides a rapid  
 CC and efficient way of reducing gene expression, can inhibit more than one  
 CC target gene, prevents development of multiple phenotypes (since the  
 CC transcription rate is the same for all RNA sequences, significantly  
 CC reducing the selection process required to produce an organism with  
 CC effective suppression of all target genes), avoids problems of epigenetic  
 CC gene silencing, does not require synthesis of individual RNA sequences  
 CC and the method can be applied to plants with complex (polyploid) genomes.

CC No interference between the individual RNA sequences occur. This sequence  
 CC represents a protein encoded by a target gene used in the method of the  
 CC invention.

XX Sequence 307 AA;

Query Match 30.6%; Score 438.5; DB 7; Length 307;  
 Best Local Similarity 42.8%; Pred. No. 1.9e-29;  
 Matches 125; Conservative 36; Mismatches 76; Indels 55; Gaps 16;

13 PSQQQPEQEVPLVQQQQP-----GQQQQFPQQQYPPQPPSQPPYLQQLPFPQPLP 67  
 27 PGLERFWQQQPLPQQQTFPQQPLFSQQQ-----QLFPQQPSFSQQP-----PFWQQQPP 78  
 68 YPQPGFPQQP-----YPQPGYSQPQPI---SQQAQQQQQQQQQQQQQ1- 114  
 79 PSQQQPLPQQPPFSQQQQLVLPQ-QPPSQQQQQLVLPQQSPFPQQQQQQLVQQQIP 137  
 115 -LQQLIQQQLIPCMQVVLQGH--NIAH---ARSQVLQGSTYQLIQLCQHLMOIPEQS 167  
 138 VVQPSILQQQLNFC-KVFLQQQCSPVAMPQRLRSQMLQQSSCHVMQQCCQQLPQIPQOS 196  
 168 QCAIHNVVAHIIHQQQKQQQQQSSQVSFQQPLQQYPLGGSPFPSSQGNPQ----- 219  
 197 RYEAIRAIIVSITL--QEQOVQGSIQSQQQPQQ---LGCQVSPQQSSQQLGQPPQ 251  
 220 ---AQGS-VQPPQLPQFEIRNIALQTLPMQCVIAPY--CTIAPFGIFGT 265  
 252 QQLAQGFILQPHQIQLQLEVMTSIALRILPTMCSVMVPLRYRTTSVPPGV-GT 302

RESULT 9  
 ADG4134  
 ID ADG4134 standard; protein; 307 AA.

XX ADG4134;

DT 26-FEB-2004 (first entry)

DE T. aestivum glutenin-1D1 protein.

XX oil content; plant; storage protein; seed-specific promoter; 2S-albumin;  
 XX 7S-globulin; 11S-globulin; 12S-globulin; zein-prolamine; transgenic;  
 XX oil production; fat production; free fatty acid production; food;  
 XX animal feed; pharmaceutical; fine chemical production; glutenin.

OS Triticum aestivum.

PN MO2003077643-A2.

PD 25-SEP-2003.

PF 17-MAR-2003; 2003WO-EP002733.

PR 20-MAR-2002; 2002DE-01012893.

PA (BAD1) BASF PLANT SCI GMBH.

PI Bauer U;

DR WPI; 2004-011485/01.

DR N-PSDB; ADG4133.

XX Increasing total oil content of plants, useful e.g. as foods or animal  
 PT feeds, by reducing amount of storage proteins, particularly with double-  
 PT stranded interfering RNA.

PS Claim 4; SEQ ID NO 174; 253pp; German.

CC This invention describes a novel method for increasing the total oil  
 CC content of a plant by reducing the amount of at least one storage protein  
 CC in the plant (or its tissue, organs, parts or cells) and selecting plants  
 CC that have higher total oil content than starting plants. The storage

CC protein is suppressed by introducing antisense RNA, optionally combined  
 CC with a ribozyme, sense RNA that induces co-suppression, DNA-binding  
 CC factors directed against storage protein genes, viral sequences that  
 CC degrade storage protein RNA, constructs that induce homologous  
 CC recombination of endogenous storage protein genes or mutations into  
 CC storage protein genes. Most preferably a plant cell is stably transfected  
 CC with a recombinant expression construct, then regenerated to plants that  
 CC express the incorporated sequence. The expression constructs particularly  
 CC contain a seed-specific promoter and they are introduced into plants by  
 CC standard methods, e.g. via Agrobacterium. The preferred storage proteins  
 CC of the invention are 2S-albumins, 7S or 11S/12S-globulins or zein-  
 CC prolamines. Transgenic organisms produced by the new method are used for  
 CC production of oils, fats, free fatty acids or their derivatives, useful  
 CC as foods, animal feeds, pharmaceuticals and fine chemicals. This sequence  
 CC represents a storage protein used to illustrate the method of the  
 CC invention.

XX Sequence 307 AA;

Query Match 30.6%; Score 438.5; DB 8; Length 307;  
 Best Local Similarity 42.8%; Pred. No. 1.9e-29;  
 Matches 125; Conservative 36; Mismatches 76; Indels 55; Gaps 16;

13 PSQQQPEQEVPLVQQQQP-----GQQQQFPQQQYPPQPPSQPPYLQQLPFPQPLP 67  
 27 PGLERFWQQQPLPQQQTFPQQPLFSQQQ-----QLFPQQPSFSQQP-----PFWQQQPP 78  
 68 YPQPGFPQQP-----YPQPGYSQPQPI---SQQAQQQQQQQQQQQQQ1- 114  
 79 PSQQQPLPQQPPFSQQQQLVLPQ-QPPSQQQQQLVLPQQSPFPQQQQQQLVQQQIP 137  
 115 -LQQLIQQQLIPCMQVVLQGH--NIAH---ARSQVLQGSTYQLIQLCQHLMOIPEQS 167  
 138 VVQPSILQQQLNFC-KVFLQQQCSPVAMPQRLRSQMLQQSSCHVMQQCCQQLPQIPQOS 196  
 168 QCAIHNVVAHIIHQQQKQQQQQSSQVSFQQPLQQYPLGGSPFPSSQGNPQ----- 219  
 197 RYEAIRAIIVSITL--QEQOVQGSIQSQQQPQQ---LGCQVSPQQSSQQLGQPPQ 251  
 220 ---AQGS-VQPPQLPQFEIRNIALQTLPMQCVIAPY--CTIAPFGIFGT 265  
 252 QQLAQGFILQPHQIQLQLEVMTSIALRILPTMCSVMVPLRYRTTSVPPGV-GT 302

RESULT 10

AB371695  
 ID AB371695 standard; protein; 1798 AA.

AC AB371695;

DT 26-MAR-2002 (first entry)

DE Drosophila melanogaster polyprotein SFG ID NO 41877.

XX Drosophila; developmental biology; cell signalling; insecticide;  
 XX pharmaceutical.

OS Drosophila melanogaster.

OS MO200171042-A2.

PD 27-SEP-2001.

PF 23-MAR-2001; 2001WO-US009231.

XX 23-MAR-2000; 2000US-0191637P.  
 PR 11-JUL-2000; 2000US-00614150.

PA (PEKE) PE CORP NY.

PI Venter UC, Adams M, Li FMD, Myers EM;

DR WPI; 2001-656860/75.



DR N-PSDB; ABL15798.  
 XX  
 PT New isolated nucleic acid detection reagent for detecting 1000 or more  
 PT genes from Drosophila and for elucidating cell signaling and cell-cell  
 PT interactions.  
 XX  
 PS Disclosure; SEQ ID NO 41877; 21bp + Sequence Listing; English.  
 XX  
 CC The invention relates to an isolated nucleic acid detection reagent  
 CC capable of detecting 1000 or more genes from Drosophila. The invention is  
 CC useful in developmental biology and in elucidating cell signaling and  
 CC cell-cell interactions in higher eukaryotes for the development of  
 CC insecticides, therapeutics and pharmaceutical drugs. The invention  
 CC discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA  
 CC sequences (ABL01840-ABL16175) and the encoded proteins (AB57737-  
 CC AB572072). The sequence data for this patent did not form part of the  
 CC printed specification, but was obtained in electronic format directly  
 CC from WIPO at ftp.wipo.int/pub/published\_pct\_sequences  
 CC  
 XX  
 SQ Sequence 1798 AA;  
 Query Match 20.2%; Score 289.5; DB 4; Length 1798;  
 Best Local Similarity 37.1%; Pred. No. 9e-16;  
 Matches 99; Conservative 17; Mismatches 96; Indels 55; Gaps 11;  
 QY 3 VPVPQLQPNP-SQQQPFQEVPLVQ-----QQQPFQGGQQQPPQQ 41  
 Db 264 VPGQATQPQSFQSKFIDPTDPAVQAQLSRALSNDLSIMRQQLKQQQQQQQQ 323  
 QY 42 PVPQPFPP-SQQPYLQLPFPQ---PPLPYPQPSFPQPPQPPQPSQPQPSQQ 97  
 Db 324 MAPPPQQQQAQQQQQQQQQQPQQQHTPSRQSPLOQQPTTFLQQPQQNMQ-IQQQ 382  
 QY 98 QAQQQQQQQQQQQQQQLLQQLLP--CMQVVLQCH--NTAARSQVLQGSTYQLIQ 153  
 Db 383 QQQQQQQQQQQQQQQQVLTQQQPQPGQQQQVITQRHVINSTAQGCQIISHSLS-- 440  
 QY 154 ELCCGHLMQIPFQSCCAHNVVAHLLHQQKQKQQQSSQVFPQPLQGYPLQGSFPR 213  
 Db 441 -----ALQKQQQ-----LLHWQQAQQPQQQQQITVQQLPRAQQQQQLP 481  
 QY 214 SQQNPAQGSYVQQLPQFEIRNAL 240  
 Db 482 QQHVVQQ--QPQGV-QFTQQQQLAL 504  
 RESULT 11  
 ABB63057  
 ID ABB63057 standard; protein; 2285 AA.  
 XX  
 AC ABB63057;  
 XX  
 DT 26-MAR-2002 (first entry)  
 XX  
 DE Drosophila melanogaster polypeptide SEQ ID NO 15963.  
 XX  
 KW Drosophila; developmental biology; cell signalling; insecticide;  
 KW pharmaceutical.  
 XX  
 OS Drosophila melanogaster.  
 XX  
 PN WO200171042-A2.  
 XX  
 PD 27-SEP-2001.  
 XX  
 PF 23-MAR-2001; 2001WO-US009231.  
 XX  
 PR 23-MAR-2000; 2000US-0191637P.  
 XX  
 PR 11-JUL-2000; 2000US-00614150.  
 XX  
 PA (PEKE) PE CORP NY.  
 XX  
 PI Venter JC, Adams M, Li PMD, Myers EW;

XX  
 DR WPI; 2001-656860/75.  
 DR N-PSDB; ABL07160.  
 XX  
 PT New isolated nucleic acid detection reagent for detecting 1000 or more  
 PT genes from Drosophila and for elucidating cell signaling and cell-cell  
 PT interactions.  
 XX  
 PS Disclosure; SEQ ID NO 15963; 21bp + Sequence Listing; English.  
 XX  
 CC The invention relates to an isolated nucleic acid detection reagent  
 CC capable of detecting 1000 or more genes from Drosophila. The invention is  
 CC useful in developmental biology and in elucidating cell signaling and  
 CC cell-cell interactions in higher eukaryotes for the development of  
 CC insecticides, therapeutics and pharmaceutical drugs. The invention  
 CC discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA  
 CC sequences (ABL01840-ABL16175) and the encoded proteins (AB57737-  
 CC AB572072). The sequence data for this patent did not form part of the  
 CC printed specification, but was obtained in electronic format directly  
 CC from WIPO at ftp.wipo.int/pub/published\_pct\_sequences  
 CC  
 XX  
 SQ Sequence 2285 AA;  
 Query Match 18.9%; Score 271; DB 4; Length 2285;  
 Best Local Similarity 35.7%; Pred. No. 4.6e-14;  
 Matches 101; Conservative 14; Mismatches 104; Indels 64; Gaps 13;  
 QY 7 QLQPNP-----SQQQPFQEVPLVQQQPFQGGQQQPPQPPQPPQ---PFP-SQQP 54  
 Db 909 QMQQQQPFVADPTVNHQVMPQQQVN--QQQQQPMQQLPQQVQVQPPVLPQPHQDP 966  
 QY 55 YLQ-LQPFQ-----PPLPYPQPSFPQPPQPPQPPQPSQPQPSQQQA--- 99  
 Db 967 QQQQQPLQQLQQLMHTVQAQDL--TQQQMAQQQAQVYQQQQQQPQAQVNNQAQVAM 1024  
 QY 100 QQQQQQQQQQQQQQLLQQLLP-----PCMDVVLQCHNINAHARQVLAQSTYQLIQ 153  
 Db 1025 QQAQGGQQQLSPQLQIQQLILQQQVAVSHQQQIMQQQLAQHQQLQQLQQLQQLQ 1084  
 QY 154 ELCCGHLMQIPFQSCCAHNVVAHLLHQQKQKQQQSSQV---SPQPLQ-----QY 204  
 Db 1085 QIQQQQLQQLQQLQQLQ--QVQVQYQA--WPCQHQLLVGSGVMAFHQHQDPLQLPVMQV 1141  
 QY 205 PL-----GQSFPSPQNPQAQGSYVQPLQPF 232  
 Db 1142 PPTSVAPRIQHTYNGGQVLTSLDAQQQQHGFSAVPOQAAPF 1184  
 RESULT 12  
 AAY96255  
 ID AAY96255 standard; protein; 1162 AA.  
 XX  
 AC AAY96255;  
 XX  
 DT 12-SEP-2003 (revised)  
 XX  
 DT 11-SEP-2000 (first entry)  
 XX  
 DE Kapoisi's sarcoma-associated herpesvirus LANA.  
 XX  
 KW Kapoisi's sarcoma-associated herpesvirus; KSHV; rhadino virus;  
 KW latency-associated nuclear antigen; LANA; gamma-2 herpes virus;  
 KW human herpes virus 8; HHV8; rhadino virus cis-acting element; RVCAB;  
 KW Kapoisi's sarcoma; primary effusion lymphoma; PEL;  
 KW human immunodeficiency virus; HIV; multicentric Castlemann's disease.  
 XX  
 OS Human herpesvirus 8.  
 XX  
 FH Key Location/Qualifiers  
 FT Domain 14..17  
 FT Domain /note="nuclear localisation signal, NLS"  
 FT Domain 64..70  
 FT Domain /note="nuclear localisation signal, NLS"  
 FT Region 320..429







GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: December 14, 2004, 17:06:20 ; Search time 19 Seconds  
(without alignments)  
928.452 Million cell updates/sec

Title: US-10-089-700-3-p65  
Sequence: 1 VRRPVLPQLQPNPSCQGPQE.....CNVYIAPYCTIAPFGIFGN 266

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 478139 seqs, 6631800 residues

Total number of hits satisfying chosen parameters: 478139

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database :  
1: Issued Patents AA:\*  
2: /cgn2\_6/prodata/1/aa/5A COMB.pep:\*  
3: /cgn2\_6/prodata/1/aa/5B COMB.pep:\*  
4: /cgn2\_6/prodata/1/aa/5C COMB.pep:\*  
5: /cgn2\_6/prodata/1/aa/5D COMB.pep:\*  
6: /cgn2\_6/prodata/1/aa/backfill1.pep:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	463	32.3	369	US-08-991-300-2	Sequence 2, Appl
2	266	18.6	1162	US-08-728-323A-2	Sequence 2, Appl
3	266	18.6	1162	US-09-298-568-2	Sequence 2, Appl
4	266	18.6	1162	US-09-410-399-2	Sequence 2, Appl
5	266	18.6	1162	US-09-894-273-2	Sequence 2, Appl
6	257	17.9	788	US-08-918-914-4	Sequence 4, Appl
7	234	16.3	256	US-08-248-796A-21251	Sequence 21251, A
8	231	16.1	498	US-09-270-767-45042	Sequence 45042, A
9	217	15.1	2074	US-08-491-356C-9	Sequence 9, Appl
10	216.5	15.1	579	US-09-668-119-3	Sequence 3, Appl
11	203.5	14.2	663	US-09-270-767-61220	Sequence 61220, A
12	203.5	14.2	1591	US-09-270-767-45698	Sequence 45698, A
13	202	14.1	2023	US-09-491-356C-8	Sequence 8, Appl
14	202	14.1	2124	US-09-538-092-1377	Sequence 1377, Ap
15	198.5	13.9	505	US-09-248-796A-19253	Sequence 19253, A
16	197.5	13.8	729	US-08-625-188-20	Sequence 20, Appl
17	197.5	13.8	2441	US-08-194-468-2	Sequence 2, Appl
18	197.5	13.8	2441	US-08-961-739-2	Sequence 2, Appl
19	197.5	13.8	2441	US-09-514-247A-8	Sequence 8, Appl
20	197.5	13.8	2441	US-09-686-316-2	Sequence 2, Appl
21	196.5	13.7	379	US-09-248-796A-23759	Sequence 23759, A
22	196.5	13.7	2442	US-09-514-247A-10	Sequence 10, Appl
23	196.5	13.7	2442	US-09-538-092-1370	Sequence 1370, Ap
24	196	13.7	216	US-09-248-796A-21017	Sequence 21017, A
25	187	13.0	169	US-09-248-796A-28087	Sequence 28087, A
26	186.5	13.0	316	US-09-270-767-42663	Sequence 42663, A
27	186.5	13.0	320	US-09-248-796A-24758	Sequence 24758, A

28	186	13.0	295	US-09-248-796A-20004	Sequence 20004, A
29	184.5	12.9	332	US-09-248-796A-21649	Sequence 21649, A
30	184	12.8	519	US-09-248-796A-19263	Sequence 19263, A
31	179.5	12.5	261	US-09-602-565-34	Sequence 34, Appl
32	178	12.4	383	US-09-248-796A-23236	Sequence 23236, A
33	178	12.4	408	US-09-248-796A-14480	Sequence 14480, A
34	178	12.4	1319	US-09-538-092-1291	Sequence 1291, Ap
35	177	12.4	848	US-09-538-092-33	Sequence 33, Appl
36	176.5	12.3	684	US-08-823-240A-9	Sequence 15319, A
37	176	12.3	618	US-09-248-796A-15319	Sequence 18720, A
38	175.5	12.2	382	US-09-248-796A-18720	Sequence 866, App
39	175	12.2	901	US-09-538-092-826	Sequence 19232, A
40	174	12.1	657	US-09-248-796A-19232	Sequence 37, Appl
41	173	12.1	1507	US-09-914-259-37	Sequence 2, Appl
42	171.5	12.0	903	US-08-853-310-2	Sequence 20699, A
43	171	11.9	675	US-09-248-796A-20699	Sequence 28827, A
44	169.5	11.8	311	US-09-248-796A-27827	Sequence 2, Appl
45	168.5	11.8	667	US-08-718-661-2	

## ALIGNMENTS

RESULT 1  
US-08-991-300-2  
Sequence 2, Application US/08991300  
Patent No. 5973225  
GENERAL INFORMATION:  
APPLICANT: D/OVIDIO, RENATO  
APPLICANT: FORCEDU, ENRICO  
APPLICANT: MERCHETTI, CINZIA  
APPLICANT: CARDELLI, LUISA ERCOLI  
TITLE OF INVENTION: ISOLATION AND CHARACTERIZATION OF A GENE  
TITLE OF INVENTION: ISOLATION AND CHARACTERIZATION OF A GENE  
NUMBER OF SEQUENCES: 6  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,  
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY  
CITY: ARLINGTON  
STATE: VA  
COUNTRY: USA  
ZIP: 22202  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patent Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/991,300  
FILING DATE: 16-DEC-1997  
CLASSIFICATION: 800  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: IT MI 96/A 002663  
FILING DATE: 19-DEC-1996  
ATTORNEY/AGENT INFORMATION:  
NAME: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,  
REGISTRATION NUMBER: 24,618  
REFERENCE/DOCKET NUMBER: 2264-0201-0X  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 703-413-3000  
TELEFAX: 703-413-3220  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 369 amino acids  
TYPE: amino acid  
STRANDEDNESS: single  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-991-300-2  
Query Match 32.3%, Score 463, DB 2, Length 369;  
Best Local Similarity 40.2%, Pred. No. 1,7e-34;

RESULT 2  
US-08-728-323A-2  
Sequence 2, Application US/08728323A  
Patent No. 5948676

Sequence 2, Application US/08728323A  
Patent No. 5948676

GENERAL INFORMATION:  
APPLICANT: Chang, Yuan  
APPLICANT: Bohenzky, Roy A.  
APPLICANT: Russo, James J.  
APPLICANT: Gdelman, Jaidore S.  
APPLICANT: Moore, Patrick S.  
TITLE OF INVENTION: Immediate Early Protein From Kaposi's  
TITLE OF INVENTION: Sarcoma-Associated Herpesvirus DNA  
TITLE OF INVENTION: Encoding Same And Uses Thereof  
NUMBER OF SEQUENCES: 21  
CORRESPONDENCE ADDRESS: .....

ADDRESSEE: Cooper & Dunham LLP  
STREET: 1165 Avenue of the Americas  
CITY: New York  
STATE: New York  
COUNTRY: U.S.A.  
ZIP: 10036

COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: PatentIn Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/728.323A

CLASSIFICATION: 435  
ATTORNEY/AGENT INFORMATION:

REGISTRATION NUMBER: 28,678  
REFERENCE/DOCKET NUMBER: 0575/52268/JPW/MSC/SKS  
TELECOMMUNICATION INFORMATION:

INFORMATION FOR SEQ ID NO: 2:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 1162 amino acids  
 TYPE: amino acid  
 TOPOLOGY: linear  
 MOLECULE TYPE: protein  
 OS-08-728-323A-2

Query Match

18.6%; Score 266; DB 2; Length 1162;

Best Local Similarity 38.0%; Pred. No. 5.4e-16;  
Matches 93; Conservative 19; Mismatches 101; Indels 32; Gaps 105

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QY      4  PVPOLQKQNPSCQDQDECVPLVQ  QQOFPCQD--QQFPQCPYPQPPSQPYLQLQ  59
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Db      495  ELQEPQQQEPQQEPQQQEPQQEPQQEPQQEPQQEPQQEPQQEPQQEPQQEPQQEP  553
QY      60  P--FPQ--PPLPYPQ--PQSPFPQPYQP-QPQYSPQCPDLSQQQAQQQQQQQQQ  109
      |  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :
Db      554  PQQREPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQ  613
QY      110  QQQQILQQQLLOOQLPCMQVVLQGNINAHRSQVLCQSTVQLLQELCCCHWQIPQSQ  169
      |  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :
Db      614  EQQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQD  663
QY      170  QAIHNVHAIIIHQQKQQQQQPPSSQVSFQQPQQYPLQGSFRSQQMPAQSSVQPQ  229
      |  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :  :
Db      664  EQQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQDQD  716
QY      230  PQFEE  234
      |  :  :  :
Db      717  EQQDQ  721

```

US-09-298-568-2  
; Sequence 2, Application US/09298568

```

1 Patient No. 6322792
2
3 GENERAL INFORMATION:
4
5 APPLICANT: Kieff, Elliott D.
6 APPLICANT: Ballestas, Mary E.
7 APPLICANT: Kaye, Kenneth M.
8
9 TITLE OF INVENTION: RHADINO VIRUS LANA ACTS IN TRANS ON A UNIT OF RHADINO
10 TITLE OF INVENTION: VIRUS DNA TO MEDIANTE EFFICIENT EPISOME PERSISTENCE
11
12 FILE REFERENCE: 16412-10001R
13
14 CURRENT APPLICATION NUMBER: US/09/298,568
15
16 CURRENT FILING DATE: 1999-04-21
17
18 EARLIER APPLICATION NUMBER: US 60/109,422
19
20 EARLIER FILING DATE: 1998-11-19
21
22 NUMBER OF SEQ ID NOS: 3
23
24 SOFTWARE: PatentIn Ver. 2.0
25
26 SEQ ID NO 2
27
28 LENGTH: 1162
29
30 TYPE: ERT
31
32 ORGANISM: Kaposi's sarcoma-associated herpesvirus
33
34 US-09-298-568-2

```

Query Match	18.6%;	Score 266;	DB 3;	Length 1162;
Best Local Similarity	38.0%;	Pred. NO. 6.4e-16;		
Matches	93;	Conservative	19;	Mismatches 101;
			Indels	32;
			Gaps	10;

```

QY      PVEOLQONNSQQQPEBQVLTVO--QQQPEGQ--QQPEPQQPYQPQPFSSQQPYQLQ 59
DB      495 PLOBPQQQHQQEQEPQQDEPQQDEQQQDEPQQDEHQQEPQQEPQQEPQQEQE-PQQQEPQQRE 553
QY      60 P---PQ--PPLQVQ--PQSPQQPQYEP-QPQVSQPPQPLSQQAQQQQQQQQQQ 109
DB      554 PQQREPPQRPQQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQREPPQ 613
QY      110 QQQQILQQQLLQQQLPQCMQVVLQONNHAFASQVLCQSTYLLQBLCCQHLQIQPEQQC 163
DB      614 EQQDEQQQDEQQ-----QPEQQQDEQQQDEQQQDEQQQDEQQQDE-----QQQDEQQQD 663
QY      170 QAIHVYVHALIILHQQKQQQQQSSQVSFQQPLQQYPLQGSFRPSQQNPPQAQSVQPPQL 223
DB      664 EQQQD-----EQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQDEQQQD 716
QY      230 PQEE 234
DB      717 EQQQD 721

```

## RESULT 4









Db 1339 YGOP-----QISYKTLPMHPLAKSSLE-----SEIEKILAMKGGSLAVV 1379

## RESULT 13

US-09-491-356C-8  
Sequence 8, Application US/09491356C  
Patent No. 6566061

## GENERAL INFORMATION:

APPLICANT: Philibert, Robert A.  
APPLICANT: Gims, Edward I.

APPLICANT: Delisi, Lynn

TITLE OF INVENTION: IDENTIFICATION OF POLYMORPHISMS IN THE PCTG4 REGION OF XOL3

FILE REFERENCE: 9465.6US11

CURRENT APPLICATION NUMBER: US/09/491,356C

CURRENT FILING DATE: 2000-01-26

PRIOR APPLICATION NUMBER: PCT/US99/09365

PRIOR FILING DATE: 1998-04-29

PRIOR APPLICATION NUMBER: 60/083,465

PRIOR FILING DATE: 1998-04-29

NUMBER OF SEQ ID NOS: 24

SOFTWARE: PatentIn version 3.1

SEQ ID NO 8

LENGTH: 2023

TYPE: PRT

ORGANISM: Homo sapiens

US-09-491-356C-8

Query Match

Best Local Similarity

Matches

87; Conservative

15; Mismatches

90; Indels

106; Gaps

11;

43

1804

81

1864

1162

227

1962

117

1924

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ORGANISM: Homo sapiens  
FEATURE:  
NAME/KEY: misc\_feature  
LOCATION: (0)...(0)  
OTHER INFORMATION: Polypeptide Accession Number Q93074  
US-09-538-092-1377

## Query Match

14.1%; Score 202; DB 4; Length 2124;  
Best Local Similarity 29.2%; Pred. No. 9, 1e-10;  
Matches 87; Conservative 15; Mismatches 90; Indels 106; Gaps 11;

43

1904

81

1964

117

2024

176

2062

227

2115

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176

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Wed Dec 15 10:01:59 2004

Search completed: December 14, 2004, 17:29:04  
Job time : 20 secs

us-10-089-700-3-p65.rat

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```

; Sequence 101, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:
; APPLICANT: Driffoh, Jan W.
; APPLICANT: Konig, Frits
; APPLICANT: McAdam, Stephan N.
; APPLICANT: Ludwig, Solid Magne
; TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS A
; FILE REFERENCE: 2799/71244-PCT-US
; CURRENT APPLICATION NUMBER: US/10/474,955
; NUMBER OF SEQ ID NOS: 137
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 101
; LENGTH: 282
; TYPE: PRT
; ORGANISM: Artificial Sequence
; OTHER INFORMATION: Amino acid sequence of GAMMA-1
US-10-474-955-101

```

```

Query Match
Best Local Similarity 38.8%; Score 556.5; DB 17; Length 282;
Matches 138; Conservative 32; Mismatches 75; Indels 47; Gaps 15;

```

```

QY 2 RVFVPL-----QPONSQQPQEQEVPLVQQQAPFGQ-QQGF-----PQQQPPQP-QPPS 51
DB 10 QVFWQQQPFPQPPFPQPPFPQPPFPQPPFPQPPFPQPPFPQPPFPQPPFPQPPFPQPPFPQ 68
QY 52 --QQQVPL--LQPPQPPPLP-VQPPSPFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 106
DB 69 QPQVFPQPPQPPFPQPPFPQPPFPQPPFPQPPFPQPPFPQPPFPQPPFPQPPFPQPPFPQ 118
QY 107 QQQQQQQQLLQQLLPCMDVYLQGN-----IAHRSQVLQGSTYQLLQELCCGHLWQ 162
DB 119 FQQQQPSLILQQLLPCMDVYLQGN-----IAHRSQVLQGSTYQLLQELCCGHLWQ 178
QY 163 IPESQCAHNVVAIIHQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQK 221
DB 179 IPQQAQCAHNVVAIIHQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQK 229
QY 222 GSVQPPQLPQPEEIRNIALQTLPMACNVYIAPYCTI--APF-----GIFG 264
DB 230 GICPQQAQCAHNVVAIIHQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 279

```

```

RESULT 6
US-10-739-930-9621
; Sequence 9621, Application US/10739930
; Publication No. US20040216190A1
; GENERAL INFORMATION:
; APPLICANT: Kovalic, David K.
; TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH
; FILE REFERENCE: 38-21(53377)B
; CURRENT APPLICATION NUMBER: US/10/739,930
; NUMBER OF SEQ ID NOS: 11088
; SEQ ID NO 9621
; LENGTH: 298
; TYPE: PRT
; ORGANISM: Trifolium aestivum
; OTHER INFORMATION: Clone ID: TRIAE-23APR03-C125_65.P
US-10-739-930-9621

```

```

Query Match
Best Local Similarity 38.1%; Score 545.5; DB 17; Length 298;
Matches 134; Conservative 28; Mismatches 75; Indels 49; Gaps 14;

```

```

QY 4 PVPQLQPNBSQQPQEQEVPLVQQQAPFGQ-QQGF-----PQQQPPQP-QPPS 61

```

```

DB 36 PVP--QHPQPSQP-----QTFPPQQTFFHHPQPPQPPQPPQPPQPPQPPQPPQPPQPP 84
QY 62 P-QPPLPYPQPSFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 110
DB 85 PQQPQQPPYPQ-----QPQQPFPQTQPPQLPFPQSQPPQPPQPPQPPQPPQPPQPPQPPQPP 140
QY 111 QQLLQQLLQQLLPCMDVYLQGN-----IAHRSQVLQGSTYQLLQELCCGHLWQIPQ 166
DB 141 QPPIQPSLQQQVNPCKNPLQCKPVSIVSLSMSIMPLPSPDCQVWRQCCQQLAQIPQ 200
QY 167 SQCAHNVVAIIHQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQK 225
DB 201 LQCAHNVVAIIHQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQK 251
QY 226 PQQLPQPEEIRNIALQTLPMACNVYIAPYCTI--APF-----GIFG 264
DB 232 PQQQAQCAHNVVAIIHQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 279

```

```

RESULT 7
US-10-474-955-97
; Sequence 97, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:
; APPLICANT: Driffoh, Jan W.
; APPLICANT: Konig, Frits
; APPLICANT: McAdam, Stephan N.
; APPLICANT: Ludwig, Solid Magne
; TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS
; FILE REFERENCE: 2799/71244-PCT-US
; CURRENT APPLICATION NUMBER: US/10/474,955
; NUMBER OF SEQ ID NOS: 137
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 97
; LENGTH: 279
; TYPE: PRT
; ORGANISM: Artificial Sequence
; OTHER INFORMATION: Consensus amino acid sequence
US-10-474-955-97

```

```

Query Match
Best Local Similarity 36.5%; Score 523; DB 17; Length 279;
Matches 132; Conservative 26; Mismatches 76; Indels 52; Gaps 14;

```

```

QY 4 PVPQLQPNBSQQPQEQEVPLVQQQAPFGQ-QQGF-----PQQQPPQP-QPPS 61
DB 18 PVP--QHPQPSQP-----QTFPPQQTFFHHPQPPQPPQPPQPPQPPQPPQPPQPPQPP 66
QY 62 P-QPPLPYPQPSFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 110
DB 67 PQQPQQPPYPQ-----QPQQPFPQTQPPQLPFPQSQPPQPPQPPQPPQPPQPPQPPQPPQPP 122
QY 111 QQLLQQLLQQLLPCMDVYLQGN-----IAHRSQVLQGSTYQLLQELCCGHLWQIPQ 166
DB 123 QPPIQPSLQQQVNPCKNPLQCKPVSIVSLSMSIMPLPSPDCQVWRQCCQQLAQIPQ 182
QY 167 SQCAHNVVAIIHQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQK 225
DB 183 LQCAHNVVAIIHQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQK 230
QY 226 PQQLPQPEEIRNIALQTLPMACNVYIAPYCTI--APF-----GIFG 264
DB 231 PQQQAQCAHNVVAIIHQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQKQ 276

```

```

RESULT 8
US-10-474-955-99
; Sequence 99, Application US/10474955
; Publication No. US20040241161A1
; GENERAL INFORMATION:

```

APPLICANT: Drifhout, Jan W.  
 APPLICANT: Koning, Frits  
 APPLICANT: McAdam, Stephan N.  
 APPLICANT: Ludwig, Soliid Magne  
 TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS  
 TITLE OF INVENTION: DO BINDING PROLAMINE-DERIVED PEPTIDES  
 FILE REFERENCE: 2799/71244-PCT-US  
 CURRENT APPLICATION NUMBER: US/10/474,955  
 NUMBER OF SEQ ID NOS: 137  
 SOFTWARE: PatentIn version 3.1  
 SEQ ID NO 99

LENGTH: 279

TYPE: PRT

ORGANISM: Artificial Sequence

FEATURE:

OTHER INFORMATION: Amino acid sequence of GAMMA-4

US-10-474-955-99

Query Match: 36.5%; Score 523; DB 17; Length 279;  
 Best Local Similarity 46.2%; Pred. No. 1,1e-32;  
 Matches 132; Conservative 26; Mismatches 76; Indels 52; Gaps 14;

QY 4 PVPQLPQNPSSQCPQPEQVPLVQCCQFPSCQCCQFP--PQQPYPPQPPFPSSQCPYVLQLPF 61  
 DB 18 PVP--QPHQPFSSQCP-----QCTFPQPCQTFPHQPCQPPQPPQ--PQQPFIQPPQPF 66  
 QY 62 PQQP-LPYPQPSFPFPQPPQ-----PQYSPQCPISQQAQ-----QQQQQQQQQQ 110  
 DB 67 PQQPQPPYPPQ-----QPPQFPQTPQPPQQLFPSSQCPQCCQFPQPPQPPQPPQPSFPQ 122  
 QY 111 QQQILQQILQQILPCMDVVLQGNH-----IAHRSQVLAQSTYQLLQELCCGHLWQIPRQ 166  
 DB 123 QPPFIQPSLQQQVNPCKNPLQQCKPVSLSVSMIMWQSDQVWRQSCQQLAQIPQ 182  
 QY 167 SCCQAIHNVVAIILHQCKQKQCCPSSQVSPQPL-QQYPLGGSFRRPSCQNPQAQGSVQ 225  
 DB 183 LQCAIHVTHSHIIMQCBQQ-----GWHILPLVQQQQVQGGTL-----VQGSGIIG 230  
 QY 226 PQQLPQFEIRNLALQTLPMCNVYIAPYCTI--APF-----GIFG 264  
 DB 231 PQQPAQLAIRSLVLTLPMTCNVYVPECSIIKAPSSVAVGIG 276

RESULT 9

US-10-474-955-98

Sequence 98, Application US/10474955  
 Publication No. US20040241161A1

GENERAL INFORMATION:

APPLICANT: Drifhout, Jan W.

APPLICANT: Koning, Frits

APPLICANT: McAdam, Stephan N.

APPLICANT: Ludwig, Soliid Magne

TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS

TITLE OF INVENTION: DO BINDING PROLAMINE-DERIVED PEPTIDES

FILE REFERENCE: 2799/71244-PCT-US

CURRENT APPLICATION NUMBER: US/10/474,955

CURRENT FILING DATE: 2003-10-13

NUMBER OF SEQ ID NOS: 137

SOFTWARE: PatentIn version 3.1

SEQ ID NO 98

LENGTH: 279

TYPE: PRT

ORGANISM: Artificial Sequence

FEATURE:

OTHER INFORMATION: Amino acid sequence of GAMMA-2

US-10-474-955-98

Query Match: 36.2%; Score 519; DB 17; Length 279;  
 Best Local Similarity 45.8%; Pred. No. 2.2e-32;  
 Matches 131; Conservative 26; Mismatches 77; Indels 52; Gaps 14;

QY 4 PVPQLPQNPSSQCPQPEQVPLVQCCQFPSCQCCQFP--PQQPYPPQPPFPSSQCPYVLQLPF 61  
 DB 18 PVP--QPHQPFSSQCP-----QCTFPQPCQTFPHQPCQPPQPPQ--PQQPFIQPPQPF 66

DB 18 PVP--QPHQPFSSQCP-----QCTFPQPCQTFPHQPCQPPQPPQ--PQQPFIQPPQPF 66  
 QY 62 P--QPP-LPYPQPSFPFPQPPQ-----PQYSPQCPISQQAQ-----QQQQQQQQQQ 110  
 DB 67 PQQPQPPYPPQ-----QPPQFPQTPQPPQQLFPSSQCPQCCQFPQPPQPPQPPQPSFPQ 122  
 QY 111 QQQILQQILQQILPCMDVVLQGNH-----IAHRSQVLAQSTYQLLQELCCGHLWQIPRQ 166  
 DB 123 QPPFIQPSLQQQVNPCKNPLQQCKPVSLSVSMIMWQSDQVWRQSCQQLAQIPQ 182  
 QY 167 SCCQAIHNVVAIILHQCKQKQCCPSSQVSPQPL-QQYPLGGSFRRPSCQNPQAQGSVQ 225  
 DB 183 LQCAIHVTHSHIIMQCBQQ-----GWHILPLVQQQQVQGGTL-----VQGSGIIG 230  
 QY 226 PQQLPQFEIRNLALQTLPMCNVYIAPYCTI--APF-----GIFG 264  
 DB 231 PQQPAQLAIRSLVLTLPMTCNVYVPECSIIKAPSSVAVGIG 276

RESULT 10

US-10-474-955-100

Sequence 100, Application US/10474955  
 Publication No. US20040241161A1

GENERAL INFORMATION:

APPLICANT: Drifhout, Jan W.

APPLICANT: Koning, Frits

APPLICANT: McAdam, Stephan N.

APPLICANT: Ludwig, Soliid Magne

TITLE OF INVENTION: METHODS AND MEANS FOR USE OF HLA-DQ RESTRICTED T-CELL RECEPTORS

TITLE OF INVENTION: DO BINDING PROLAMINE-DERIVED PEPTIDES

FILE REFERENCE: 2799/71244-PCT-US

CURRENT APPLICATION NUMBER: US/10/474,955

CURRENT FILING DATE: 2003-10-13

NUMBER OF SEQ ID NOS: 137

SOFTWARE: PatentIn version 3.1

SEQ ID NO 100

LENGTH: 279

TYPE: PRT

ORGANISM: Artificial Sequence

FEATURE:

OTHER INFORMATION: Amino acid sequence of GAMMA-3

US-10-474-955-100

Query Match: 36.2%; Score 519; DB 17; Length 279;  
 Best Local Similarity 46.0%; Pred. No. 2.2e-32;  
 Matches 131; Conservative 28; Mismatches 76; Indels 50; Gaps 14;

QY 4 PVPQLPQNPSSQCPQPEQVPLVQCCQFPSCQCCQFP--PQQPYPPQPPFPSSQCPYVLQLPF 61  
 DB 18 PVP--QPHQPFSSQCP-----QCTFPQPCQTFPHQPCQPPQPPQ--PQQPFIQPPQPF 66  
 QY 62 P--QPP-LPYPQPSFPFPQPPQ-----PQYSPQCPISQQAQ-----QQQQQQQQQQ 111  
 DB 67 PQQPQPPYPPQ-----QPPQFPQTPQPPQQLFPSSQCPQCCQFPQPPQPPQPPQPSFPQ 123  
 QY 112 QQQILQQILQQILPCMDVVLQGNH-----IAHRSQVLAQSTYQLLQELCCGHLWQIPRQ 167  
 DB 124 PPFQPSLQQQVNPCKNPLQQCKPVSLSVSMIMWQSDQVWRQSCQQLAQIPQ 183  
 QY 168 SCCQAIHNVVAIILHQCKQKQCCPSSQVSPQPL-QQYPLGGSFRRPSCQNPQAQGSVQ 226  
 DB 184 QCAIHVTHSHIIMQCBQQ-----GWHILPLVQQQQVQGGTL-----VQGSGIIG 231  
 QY 227 PQQLPQFEIRNLALQTLPMCNVYIAPYCTI--APF-----GIFG 264  
 DB 232 PQQPAQLAIRSLVLTLPMTCNVYVPECSIIKAPSSVAVGIG 276

RESULT 11

US-10-739-930-9778

Sequence 9778, Application US/10739930  
 Publication No. US20040216190A1



GENERAL INFORMATION:  
APPLICANT: Kovalic, David K.  
TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH  
TITLE OF INVENTION: PLANTS AND USES THEREOF FOR PLANT IMPROVEMENT  
FILE REFERENCE: 38-21(53377)B  
CURRENT APPLICATION NUMBER: US/10/739,930  
CURRENT FILING DATE: 2003-12-18  
NUMBER OF SEQ ID NOS: 11088  
SEQ ID NO 9778  
LENGTH: 304  
TYPE: PRT  
ORGANISM: Triticum aestivum  
FEATURE:  
OTHER INFORMATION: Clone ID: TRIAE-23APR03-C176\_243.P  
US-10-739-930-9778

Query Match 31.6%; Score 453.5; DB 17; Length 304;  
Best Local Similarity 41.9%; Pred. No. 2,9e-27;  
Matches 122; Conservative 34; Mismatches 80; Indels 55; Gaps 14;

QY 19 QGQVPLVQQQCPFGCCQCPFPQCPYCPQCPFSQCPYLCQCPFPPELPYCPQCPFPQ 78  
DB 20 QMETSCTSGLERPMQCPFPQCPFSQCPFPSCQCP-----QPLPQCPFSQCPFPSCQ 75  
QY 79 PYPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 127  
DB 76 PLSQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 134  
QY 128 DVVLQGH--NIAH---ARSQVLQSTYQLQELCCQHLQIPQSCQCAIHNVVAHIL 181  
DB 135 KVLQCCSPVAMPORLARSQMWQSCCHWQCCQCCQQLIPQSRYAIRAILYSILL 194  
QY 182 HQQCK-----QQQCPFS-----SQVFPQPLQCPYCPQCPFSQCPFPSCQCP 219  
DB 195 QEQQCGVCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 249  
QY 220 --AGS--VQCPQLPQFEERINLALQTLPMACNYIAPY--CTIAPFGIFGT 265  
DB 250 QVLTGTFLOPHQIAHLEAVTSIALRTLPWCNVNPLYSATISVPGV--GT 299

RESULT 12  
US-10-739-930-9782  
Sequence 9782, Application US/10739930  
Publication No. US20040216190A1  
GENERAL INFORMATION:  
APPLICANT: Kovalic, David K.  
TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH  
TITLE OF INVENTION: PLANTS AND USES THEREOF FOR PLANT IMPROVEMENT  
FILE REFERENCE: 38-21(53377)B  
CURRENT APPLICATION NUMBER: US/10/739,930  
CURRENT FILING DATE: 2003-12-18  
NUMBER OF SEQ ID NOS: 11088  
SEQ ID NO 9782  
LENGTH: 307  
TYPE: PRT  
ORGANISM: Triticum aestivum  
FEATURE:  
OTHER INFORMATION: Clone ID: TRIAE-23APR03-C176\_269.P  
US-10-739-930-9782

Query Match 30.6%; Score 438.5; DB 17; Length 307;  
Best Local Similarity 42.8%; Pred. No. 4,2e-26;  
Matches 125; Conservative 36; Mismatches 76; Indels 55; Gaps 16;

QY 13 PSQOCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 67  
DB 27 PGLRPMQCPPLPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 78  
QY 68 YPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 114  
DB 79 FSCQCPPLPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 137

QY 115 -LQQLQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 167  
DB 138 VQPSILQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 196  
QY 168 QCAIHNVVAHILHQQCKQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 219  
DB 197 RYEAIRAILYSILL--QEQQCGVCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 251  
QY 220 --AGS--VQCPQLPQFEERINLALQTLPMACNYIAPY--CTIAPFGIFGT 265  
DB 252 QQLAGTFLQPHQIAHLEAVTSIALRTLPWCNVNPLYSATISVPGV--GT 302

RESULT 13  
US-10-739-930-9769  
Sequence 9769, Application US/10739930  
Publication No. US20040216190A1  
GENERAL INFORMATION:  
APPLICANT: Kovalic, David K.  
TITLE OF INVENTION: NUCLEIC ACID MOLECULES AND OTHER MOLECULES ASSOCIATED WITH  
TITLE OF INVENTION: PLANTS AND USES THEREOF FOR PLANT IMPROVEMENT  
FILE REFERENCE: 38-21(53377)B  
CURRENT APPLICATION NUMBER: US/10/739,930  
CURRENT FILING DATE: 2003-12-18  
NUMBER OF SEQ ID NOS: 11088  
SEQ ID NO 9769  
LENGTH: 244  
TYPE: PRT  
ORGANISM: Triticum aestivum  
FEATURE:  
OTHER INFORMATION: Clone ID: TRIAE-23APR03-C176\_124.P  
US-10-739-930-9769

Query Match 26.7%; Score 382; DB 17; Length 244;  
Best Local Similarity 40.3%; Pred. No. 8e-22;  
Matches 108; Conservative 33; Mismatches 57; Indels 70; Gaps 14;

QY 39 PQCPYCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 77  
DB 1 PQCPFPPLQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 55  
QY 78 QYCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 135  
DB 56 APFPQ-----QQQHQQLAQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 97  
QY 136 IAH---ARSQVLQSTYQLQELCCQHLQIPQSCQCAIHNVVAHILHQQCKQCP 191  
DB 98 VAMPQRLARSQWLQSSCHWQCCQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 155  
QY 132 SQVFPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 239  
DB 156 STQSQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCPQCP 212  
QY 240 LQTLPMACNYIAPY--CTIAPFGIFGT 265  
DB 213 LRILPWCNVNPLYSATISVPGV--GT 239

RESULT 14  
US-10-425-115-200100  
Sequence 200100, Application US/10425115  
Publication No. US20040214272A1  
GENERAL INFORMATION:  
APPLICANT: La Rosa, Thomas J.  
APPLICANT: Kovalic, David K.  
APPLICANT: Cao, Yongwei  
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With  
TITLE OF INVENTION: Plants  
FILE REFERENCE: 38-21(53222)B  
CURRENT APPLICATION NUMBER: US/10/425,115  
CURRENT FILING DATE: 2003-04-28  
NUMBER OF SEQ ID NOS: 369326



A;Title: Developmentally regulated plant genes: the nucleotide sequence of a wheat gli



C;Accession: S07924; C61218

D5 81 FPCPQFPFQLPYQPFPFSPQQPYQPQPYQPQPISSQQAQQQQQQQQQQQQ 1

81 FBCBCEBPOTBYBPBFESPOOPYBPBPPOPISSOOAOOOOOOOOOO 1



Query Match	85.2%;	Score 1221;	DB 2;	Length 326;
Best Local Similarity	77.8%;	Pred. No. 7 4e-73;		
Matches 238;	Conservative	9;	Mismatches 19;	Indels 40;
				Gaps 4

### RESULT 13

Query Match	84.0%;	Score 1204;	DB 2;	Length 320;
Best Local Similarity	79.0%;	Pred. No. 9.3e-72;		
Matches 237;	Conservative 11;	Mismatches 18;	Indels 34;	Gaps 5;

60 PFPQ-----PPLPYRQPSFPQRPYRQRPQPSQRPQZISQQA-QQQQQQQQQQQQQQ 113

RESULT 14

Query Match	83.4%	Score 181;	DB 2;	Length 282;
Best Local Similarity	84.8%	Pred. No. 2.6e-70;		
Matches 288;	Conservative 11;	Mismatches 20;	Indels 10;	Gaps 4

RESULT 15  
000000

A;Molecule type: mRNA

A:Residues: 1-292 <OKI>  
A:Cross-references: UNIPROT:P04721

C:Superfamily: glialdin  
E:1-20/Domain: signal sequence #status predicted <SIG>  
E:21-292/Product: alpha/beta-glialdin #status predicted <MAT>

Query Match 80.5%; Score 1153.5; DB 2; Length 292;  
Best Local Similarity 84.1%; Pred. No. 1.7e-68;  
Matches 227; Conservative 2; Mismatches 10; Indels 31; Gaps 4;

```
QY 1 VRVPVPLQLPQNPSCQQQPEQVPLVQQQQFPQCCQCFPPQCPYPQPQPPPSQCPYLQLQP 60
   |||||
DB 21 VRVPVPLQLPQNPSCQQQPEQVPLVQQQQFPQCCQCFPPQCPYPQPQCPFPSPQPYLQLQP 80
   |||||
QY 61 F--PQ---PELEYPQPSFPPQCPYPQPQCPYSPQCPIS--QQCAQQQQQQQQQQQQQQQI 114
   |||||
DB 81 FLQPPQFPPLQLPISQPPPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQ 140
   |||||
QY 115 LQQLLQQLLPCMDVVLQQHNTAHARSGVLAQSTYQLLELCCQHLMQIPESQCCQAIHN 174
   |||||
DB 141 LQQLLQQLLPCMDVVLQQHNTVHKSQVLAQSTYQLLELCCQHLMQIPESQCCQAIHN 200
   |||||
QY 175 VVAATILH-----QQKQQQPSQVSEFQPLQCYPLGGG 209
   |||||
DB 201 VVAATILHQQQQQQQEQKQQLQQQQQQQLQQQQQKQQQPSQVSEFQPLQCYPLGGG 260
   |||||
QY 210 SFRPSQNPQAQSGVQPPQLPQFEIRNLA 239
   |||||
DB 261 SFRPSQNPQAQSGVQPPQLPQFEIRNLA 290
   |||||
```

Search completed: December 14, 2004, 17:27:02  
Job time : 16 secs



31	1181	82.4	282	1	GDA3_WHEAT	P04723	tritilum a
----	------	------	-----	---	------------	--------	------------



Db 242 QTLPRAMCNVYIPPYCTIAPFGIFGTN 267



OX	NBBI_TaxID=4565;
RN	[1]
RP	SEQUENCE FROM N.A.
RC	SRRIN-Mjcelner; TISSUE=Endosperm;
RA	Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,
RL	Submitted (MAR-1999) to the EMBL/GenBank/DBD databases.
DR	EMBL; AJ133603; CAB76958.1; "
DR	GO; GO:0045735; F:nutrient reservoir activity; IEA.
DR	InterPro; IPR003612; AAI.
DR	InterPro; IPR001376; Gliadin.
DR	InterPro; IPR001954; Glia-glutenin.
DR	Pfam; PF00234; Tryp_alpha_amy1; 1.
DR	PRINTS; PR00208; GLIADSLUTEN.
DR	PRINTS; PR00209; GLIADIN.
DR	SMART; SM00499; AAI; 1.
FT	CHAIN 1 274 alpha-gliadin.
SO	SEQUENCE 274 AA; 31980 MW; 976919397534ABD CRC64;
QY	Query Match 94.1%; Score 1348.5; DB 2; Length 274;
Bset	Best Local Similarity 94.1%; Pred. No. 5.4e-73;
Matches	255; Conservative 0; Mismatches 11; Indels 5; Gaps 1
D6	1 VRVVFQQLQPQNPSSQQCFEQVLTVQQCCFFGQQCCFPFPPQDPYPQPFPSQGPYLQLOP 60
D6	2 VRTVTFGLPQNPSSQQCFEQVLTVQQCCFFGQQCCFPFPPQDPYPQPFPSQGPYLQLOP 61
QY	61 FPQPLPYRQSPFPQGFPPQGYRPPQGYRPPQGIS-----QQCAQQCQQCQQCQQCQQCQTLL 115
D6	62 FPQPLPYRQSPFPQGFPPQGFPPQGYRPPQGYRPPQGISQQCQQCQQCQQCQQCQQCQTLL 121
QY	116 QQTLQQQLPCMDVVLQGNTHARSGVLAQSSTYQLQLQELCCQHLMQIPQSCCGAITHNY 175
D6	122 QQTLQQQLPCMDVVLQGNTHARSGVLAQSSTYQLQLQELCCQHLMQIPQSCCGAITHNY 181
QY	176 VHAIIHQOQKQSQSVSFQPLQGYPIQGSGFRPSQNPQAQGSVPQQLPQFEI 225
D6	182 VHAIIHQOQKQSQSVSFQPLQGYPIQGSGFRPSQNPQAQGSVPQQLPQFEI 241
QY	236 RNIALQTLPMCNVLYAPCYTAPRGIGTN 266
D6	242 RNIALQTLPMCNVLYAPCYTAPRGIGTN 272
RESULT 6	
OSMAM2	PRELIMINARY; PRT; 276 AA.
ID	OSMAM2
AC	OSMAM2; 01-OCT-2000 (TREMBLrel. 15, Created)
DT	01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT	01-MAR-2004 (TREMBLrel. 26, Last annotation update)
DE	Alpha-gliadin.
OS	Triticum aestivum (Wheat).
OC	Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC	Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;
OC	Triticeae; Triticum.
OX	NCBI_TaxID=4565;
RN	[1]
RP	SEQUENCE FROM N.A.
RC	STRAIN=Mjcelner; TISSUE=Endosperm;
RA	Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,
RL	Submitted (MAR-1999) to the EMBL/GenBank/DBD databases.
DR	EMBL; AJ133606; CAB76958.1; "
DR	GO; GO:0045735; F:nutrient reservoir activity; IEA.
DR	InterPro; IPR003612; AAI.
DR	InterPro; IPR001376; Gliadin.
DR	InterPro; IPR001954; Glia-glutenin.
DR	Pfam; PF00234; Tryp_alpha_amy1; 1.
DR	PRINTS; PR00208; GLIADSLUTEN.
DR	PRINTS; PR00209; GLIADIN.
DR	SMART; SM00499; AAI; 1.
FT	CHAIN 1 276 alpha-gliadin.

DT 01-MAR-2004 (ITEMBLrel. 26, last annotation update)  
DE Alpha-gliadin.

OS Triticum aestivum (wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticeae; Triticum.  
 OX NCB1\_TaxID=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Moeleiner; TISSUE=Endosperm;  
 RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,  
 RA Solliid L.M.;  
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; AJ133608; CAB76960.1; -  
 DR GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DR InterPro; IPR003612; AAI.  
 DR InterPro; IPR001954; Glia-glutenin.  
 DR Pfam; PF00234; TYP\_alpha\_amy1; 1.  
 DR PRINTS; PR00209; GLIADIN.  
 DR SMART; SM00499; AAI; 1.  
 DR CHAIN 1  
 SQ SEQUENCE 276 AA; 32211 MW; 6A2E9723D42B100A CRC64;  
 Query Match 93.5%; Score 1339.5; DB 2; Length 276;  
 Best Local Similarity 92.7%; Pred. No. 1.9e-72;  
 Matches 253; Conservative 2; Mismatches 11; Indels 7; Gaps 1;  
 QY 1 VRVFPVQLQPNPNSQCCQPEQVPLVQCCQFPFGCCQCCFPFPQPPQPPFPQPPQPPYLQLP 60  
 DB 2 VRVFPVQLQPNPNSQCCQPEQVPLVQCCQFLGQQQPPFPQPPQPPFPQPPQPPYLQLP 61  
 QY 61 FPQPLPYPPQSPFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 113  
 DB 62 FPQPLPYPPQSPFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 121  
 QY 114 ILQQLILPCMDVVLQCHNIAHARSQVLAQSTYQLRLCCCHLMQIPESQCCAIHNVH 173  
 DB 122 ILQQLILPCMDVVLQCHNIAHARSQVLAQSTYQLRLCCCHLMQIPESQCCAIHNVH 181  
 QY 174 NVVAAILHQCKKQCCQSSQVSPQPLQYPLGQGSFRPSQCNPAQGSVQPPQPPQPP 233  
 DB 182 NVVAAILHQCKKQCCQSSQVSPQPLQYPLGQGSFRPSQCNPAQGSVQPPQPPQPP 241  
 QY 234 EIRNLALQTLPAKNCVYIAPYCTIAPFGIFGTN 266  
 DB 242 EIRNLALQTLPAKNCVYIAPYCTIAPFGIFGTN 274  
 RESULT 10  
 Q41531 PRELIMINARY; PRT; 289 AA.  
 ID Q41531  
 AC Q41531;  
 DT 01-NOV-1996 (TREMBLrel. 01, Created)  
 DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)  
 DT 01-MAR-2004 (TREMBLrel. 26, Last annotation update)  
 DE Alpha-glialadin storage protein.  
 OS Triticum aestivum (wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticeae; Triticum.  
 OX NCB1\_TaxID=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Cheyenne;  
 RA Anderson O.D.;  
 RL Submitted (MAR-1996) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; U51306; AA96524.1; -  
 DR PIR; S1333; S1333.  
 DR GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DR InterPro; IPR003612; AAI.  
 DR InterPro; IPR001954; Glia-glutenin.  
 DR Pfam; PF00234; TYP\_alpha\_amy1; 1.

DR PRINTS; PR00208; GLIADGLUTEN.  
 DR PRINTS; PR00209; GLIADIN.  
 DR SMART; SM00499; AAI; 1.  
 SQ SEQUENCE 289 AA; 33349 MW; 5F577C9CD63874PA CRC64;  
 Query Match 93.2%; Score 1335.5; DB 2; Length 289;  
 Best Local Similarity 94.1%; Pred. No. 3.3e-72;  
 Matches 253; Conservative 1; Mismatches 12; Indels 3; Gaps 1;  
 QY 1 VRVFPVQLQPNPNSQCCQPEQVPLVQCCQFPFGCCQCCFPFPQPPQPPFPQPPQPPYLQLP 60  
 DB 21 VRVFPVQLQPNPNSQCCQPEQVPLVQCCQFLGQQQPPFPQPPQPPFPQPPQPPYLQLP 80  
 QY 61 FPQPLPYPPQSPFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 117  
 DB 81 FPQPLPYPPQSPFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 140  
 QY 118 ILQQLILPCMDVVLQCHNIAHARSQVLAQSTYQLRLCCCHLMQIPESQCCAIHNVH 177  
 DB 141 ILQQLILPCMDVVLQCHNIAHARSQVLAQSTYQLRLCCCHLMQIPESQCCAIHNVH 200  
 QY 178 AIIHQCKKQCCQSSQVSPQPLQYPLGQGSFRPSQCNPAQGSVQPPQPPQPPQPP 237  
 DB 201 AIIHQCKKQCCQSSQVSPQPLQYPLGQGSFRPSQCNPAQGSVQPPQPPQPPQPP 260  
 QY 238 LALQTLPAKNCVYIAPYCTIAPFGIFGTN 266  
 DB 261 LALQTLPAKNCVYIAPYCTIAPFGIFGTN 289  
 RESULT 11  
 Q9M4L9 PRELIMINARY; PRT; 270 AA.  
 ID Q9M4L9  
 AC Q9M4L9;  
 DT 01-OCT-2000 (TREMBLrel. 15, Created)  
 DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)  
 DT 01-MAR-2004 (TREMBLrel. 26, Last annotation update)  
 DE Alpha-glialadin.  
 OS Triticum aestivum (wheat).  
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
 OC Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooidae;  
 OC Triticeae; Triticum.  
 OX NCB1\_TaxID=4565;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC STRAIN=Moeleiner; TISSUE=Endosperm;  
 RA Arentz-Hansen E.H., McAdam S.N., Molberg O., Kristiansen C.,  
 RA Solliid L.M.;  
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.  
 DR EMBL; AJ133609; CAB76961.1; -  
 DR GO; GO:0045735; F:nutrient reservoir activity; IEA.  
 DR InterPro; IPR003612; AAI.  
 DR InterPro; IPR001954; Glia-glutenin.  
 DR Pfam; PF00234; TYP\_alpha\_amy1; 1.  
 DR PRINTS; PR00208; GLIADGLUTEN.  
 DR PRINTS; PR00209; GLIADIN.  
 DR SMART; SM00499; AAI; 1.  
 DR CHAIN 1  
 SQ SEQUENCE 270 AA; 31491 MW; 1DB4B6528EFAADF5 CRC64;  
 Query Match 92.7%; Score 1328.5; DB 2; Length 270;  
 Best Local Similarity 94.0%; Pred. No. 8.2e-72;  
 Matches 251; Conservative 3; Mismatches 12; Indels 1; Gaps 1;  
 QY 1 VRVFPVQLQPNPNSQCCQPEQVPLVQCCQFPFGCCQCCFPFPQPPQPPFPQPPQPPYLQLP 60  
 DB 2 VRVFPVQLQPNPNSQCCQPEQVPLVQCCQFLGQQQPPFPQPPQPPFPQPPQPPYLQLP 61  
 QY 61 FPQPLPYPPQSPFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 119  
 DB 62 FPQPLPYPPQSPFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPP 121





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GenCore version 5.1.6  
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## OM protein - protein search, using sw model

Run on: December 14, 2004, 17:00:05 ; Search time 76.6667 Seconds  
(without alignments)  
1244.635 Million cell updates/sec

Title: US-10-089-700-3-R65

Sequence: 1 VRRVPPQLQPNPSQQQPOE.....CNVYIAPYCTIAPFGIFGTN 266

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2002273 seqs, 35872929 residues

Total number of hits satisfying chosen parameters: 2002273

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_23Sep04:\*  
1: geneseqp1980s:\*  
2: geneseqp1980s:\*  
3: geneseqp2000s:\*  
4: geneseqp2001s:\*  
5: geneseqp2002s:\*  
6: geneseqp2003as:\*  
7: geneseqp2003bs:\*  
8: geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	* Match Length	DB ID	Description
1	1427	99.7	266 4 AAU01799	AAU01799 Wheat A-g
2	1427	99.7	266 4 ADH14513	ADH14513 A-gliadin
3	1267.5	88.6	290 7 AAB38574	AAB38574 Wheat alp
4	1267.5	88.6	290 8 ADP19626	ADP19626 Alpha-2-G
5	464	32.4	369 8 AAB62647	AAB62647 Mature du
6	450.5	31.5	297 8 AD071669	AD071669 Amino aci
7	440.5	30.8	307 8 ADH89338	ADH89338 T. aestiv
8	440.5	30.6	307 8 ADG44134	ADG44134 T. aestiv
9	437.5	30.6	298 8 AD071661	AD071661 Amino aci
10	288.5	20.2	1798 4 ABB71695	ABB71695 Drosophil
11	273	19.1	1162 3 AAY96255	AAY96255 Kaposi's
12	273	19.1	1162 3 AAY58500	AAY58500 HHV8 ORF
13	273	19.1	1162 4 AAB62331	AAB62331 Amino aci
14	273	19.1	1162 4 AAB62331	AAB62331 Kaposi's
15	273	19.1	1162 8 ADU65096	ADU65096 HHV8 late
16	270	18.9	2285 4 ABB63057	ABB63057 Drosophil
17	266.5	18.6	757 8 AD030905	AD030905 Human PDI
18	266.5	18.6	1069 8 ABO07138	ABO07138 Novel hum
19	266.5	18.6	1069 8 ADJ37233	ADJ37233 Human nuc
20	258	18.0	260 8 AD047673	AD047673 Amino aci
21	255	17.8	186 7 ADH89336	ADH89336 H. vulgar
22	255	17.8	186 7 ADG44132	ADG44132 H. vulgar
23	251	17.5	905 5 ABR93053	ABR93053 S. cerevi
24	251	17.5	905 6 ABR53130	ABR53130 Protein s
25	251	17.5	905 7 ADK62564	ADK62564 Disease t

26	249.5	17.4	900 4 ABB62018	ABB62018 Drosophil
27	242	16.9	1013 4 ABB71039	ABB71039 Drosophil
28	241	16.8	358 7 ABB65556	ABB65556 Human pro
29	238.5	16.7	1069 4 ABB61305	ABB61305 Drosophil
30	237.5	16.6	1142 7 ADC07968	ADC07968 Rice prot
31	237	16.6	4365 6 ABU02252	ABU02252 S. pneumo
32	233	16.3	160 7 ADH89335	ADH89335 H. vulgar
33	233	16.3	160 8 ADG44131	ADG44131 H. vulgar
34	233	16.3	2237 5 ABB70004	ABB70004 Larval vi
35	233	16.3	2703 4 ABB60074	ABB60074 Drosophil
36	231.5	16.2	149 4 AAB72673	AAB72673 Polygluta
37	231	16.1	1761 4 ABB59512	ABB59512 Drosophil
38	230	16.1	158 3 AAY54568	AAY54568 A synthe
39	230	16.1	2280 4 ABB61650	ABB61650 Drosophil
40	227	15.9	738 5 ABB93140	ABB93140 S. cerevi
41	226	15.8	153 3 AAY69495	AAY69495 Amino aci
42	226	15.8	1428 4 ABB70377	ABB70377 Drosophil
43	225.5	15.8	785 8 ADP98983	ADP98983 C. albica
44	225	15.7	368 4 ABB63167	ABB63167 Drosophil
45	224	15.7	1237 3 AAY81609	AAY81609 Streptoco

## ALIGNMENTS

## RESULT 1

AAU01799 standard; protein, 266 AA.

AAU01799; (first entry)  
Wheat A-gliadin.  
Wheat; A-gliadin; epitope; coeliac disease; gluten intolerance;  
KW T-cell binding; antagonist; transglutaminase; transgenic plant.  
XX Triticum aestivum.  
OS WO200125793-A2.  
PN 12-APR-2001.  
PD 02-OCT-2000; 2000WO-GB003760.  
PF 01-OCT-1999; 99GB-00023306.  
PR (ISIS-) ISIS INNOVATION LTD.  
PA Anderson RP, Hill AVS, Jewell DP;  
WPI; 2001-300179/31.  
PT Diagnosing coeliac disease or susceptibility to the disease in an  
individual, by detecting in vitro or in vivo T cells which bind  
immunodominant T cell epitope obtained from naturally occurring homolog  
of gliadin.  
PS Claim 1; Page 52; 107pp; English.  
XX The sequence represents wheat A-gliadin. A-gliadin derived peptides of  
CC the invention are used to test mammalian (preferably human)  
CC susceptibility to coeliac disease (gluten intolerance). The peptides are  
CC contacted with a blood sample and T cell recognition measured, a positive  
CC T-cell recognition indicating a susceptibility to coeliac disease. The  
CC peptides are useful for inducing tolerance in an individual and  
CC antagonists to the peptides are useful for treating or preventing coeliac  
CC disease in an individual and for producing an antibody specific to them  
CC or a wild-type sequence. A mutant gliadin protein (or its fragment of 15  
CC amino acids in length) whose wild-type sequence can be modified by  
CC transglutaminase to a sequence that comprises the epitope, but which has  
CC been modified in such a way that it does not contain sequence which can

The present invention describes a method (M1) for preventing or treating

PI Hausch E, Gray G, Shan L, Khosla C  
XX

DR WPI; 2003-697466/66.

PT for producing antibodies that bind specifically to such oligopeptides.

PS , Claim 8; page 14; 18pp; French.

XX The present sequence represents the mature glutenin protein. The DNA  
 GC sequence encoding this protein is isolated from the genomic DNA of  
 CC Triticum durum L. The gene codes for a low-molecular-weight glutenin  
 CC protein and can be used to produce transgenic durum wheat plants with  
 CC "better quality characteristics" (no details given). (Updated on 25-MAR-  
 CC 2003 to correct PI field.) (Updated on 17-OCT-2003 to standardise OS  
 CC field)

XX Sequence 369 AA;

Query Match 32.4%; Score 464; DB 2; Length 369;  
 Best Local Similarity 40.2%; Pred. No. 1.7e-31;  
 Matches 134; Conservative 32; Mismatches 87; Indels 80; Gaps 14;

6 POLGPNPSQQPP-----OEVPVLVQGGPFGQQQQFP--PQQPYPPQPPF-----50  
 38 PQQGCSQQQQPPPLSSQQQQPPFSQQQQPPPLPQQPFSQQQLPFSQQQQPP 97  
 51 ---SQQPYL-----QLQPPQPPPLPYPQPSFPFQQ-----PYQPQPYYSQ 89  
 98 FSQQQQPYLPQQPFSQQQLPFSQQQLPFSQQQPPVLPQQPFSQQQPPFSQQLPFSQ 157  
 90 PQQPFSQQQAQQQQQQQ-----QQQQQQQLQQ-----ILQQQLPQMDVVLQ 132  
 158 QQQPVLPPQQPFSQQQQPPFPQQPFSQQQQPPVLLQQQLPFPVPSILQQQLNFC-KVFLQ 216  
 133 QH-----NIHARSQVLLQSTYQLLQELCCQHLWQIPBSQCCAIHNVVAIILHQQK 186  
 217 QCSFPMAMPQS.LARSGM.LQSSCHVMQCCQLPQIRPQGRYRAIRAIYVSIL--QEQ 274  
 187 QQQQSSQVSPQPPQLQYPLQGGSPRPSQQQPPQAGS-----VQPPQLPQFEE 234  
 275 QQQVSGISTQQQQPPQ---LQGVSVQPGQSQQLGQQPPQQQLAHGTFLLQPHQIAQLV 331  
 235 IRLNALQTLPLAMCNVYIAPY--CTIAPFGIRGT 265  
 332 MTSIALRTLPMTCMNVPLVYRTTTRVPEGV-GT 363

RESULT 6  
 ADO71669  
 ID ADO71669 standard; protein; 297 AA.

XX ADO71669;

XX 12-AUG-2004 (first entry)

XX Amino acid sequence of a modified glutenin LMW subunit.

XX 1QW molecular weight subunit; LMW subunit; glutenin;

XX wheat cultivar Cheyenne; gliadin; flour; tablet; coeliac disease;

XX gluten intolerance.

XX Triticum sp.

XX Synthetic.

XX EP1424342-A1.

XX 02-JUN-2004.

XX 27-NOV-2002; 2002HP-00026461.

XX 27-NOV-2002; 2002HP-00026461.

XX (BAKE-) BAKEMARK DEUT GMBH.

XX (MONS-) MONSANTO AGRAR DEUT GMBH.

XX (UNIF-) UNIFERN GMBH & CO KG.

XX (PURA-) PURATOS NV.

XX Hinzmann E, Wieser H, Stahl U;

XX MPI; 2004-402870/38.

DR N-PSDB; ADO71668.  
 XX Novel nucleic acid comprising sequence encoding modified glutenin  
 PT polypeptide, useful for preparing modified glutenin polypeptide as  
 PT gliadin substitute in foodstuffs such as dough, pastries and wafers.  
 XX Claim 16; Fig 11; 43pp; English.

XX The present sequence represents a modified low molecular weight (LMW)  
 CC subunit of glutenin. The wild type subunit is designated clone LMW6, and  
 CC is isolated from wheat cultivar Cheyenne. The LMW6 polypeptide does not  
 CC contain the allergenic epitope QQQPP, and shows some minor differences to  
 CC published sequences. It therefore represents a new allele for LMW subunit  
 CC genes. The LMW6 polypeptide was modified to produce modified glutenin  
 CC polypeptides of the invention. In these modified polypeptides one or more  
 CC cysteine residues responsible for intermolecular cross linking through  
 CC disulfide bridges are deleted or substituted. The modified glutenin  
 CC polypeptide is useful as a gliadin substitute. It is also useful in the  
 CC preparation of foodstuffs, such as flour or for the preparation of  
 CC pharmaceutical products, such as tablets, where the foodstuffs contain a  
 CC considerably reduced amount of gliadin proteins or no gliadin proteins.  
 CC Pharmaceutical compositions comprising the modified polypeptide of the  
 CC invention are useful for treating patients suffering from coeliac disease  
 CC or persons who are intolerant to gluten.

XX Sequence 297 AA;

Query Match 31.5%; Score 450.5; DB 8; Length 297;  
 Best Local Similarity 41.2%; Pred. No. 1.9e-30;  
 Matches 120; Conservative 38; Mismatches 82; Indels 51; Gaps 13;

5 VPQLGPNPSQQPPQEQVPLVQGGPFGQQQQFPQPPQPPQPPQPPQPPQPPQPPQ 63  
 18 IAGMETSIRGLERPMQQQLQKKERF---QQPFSQ---QQQPPQPPFPQQQPPFSQ 71  
 64 PRLPFPQGSFPFPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQPPQ 116  
 72 -----QPLFSQKQPPVLPQQPAPFSQQQQQVLPQQPAPFSQQQQQLLQQQIPYVPSILQ 125  
 117 QI-----HQQLIPQMDVVLQGHNIHARSQVLLQSTYQLLQELCCQHLWQIPBSQCCQ 170  
 126 QLANPCKVFLQQQ---CSFVAMPQH---LARSQMWQSSGNVMQCCQQLPPIPSQRYE 179  
 171 AIHNVVAIILHQQK-----QQQPPSSQV-SFQQPQLQ-QYPLQGSF-----RP 213  
 180 AIRAIRFSIILQEQGGFVQPPQQQPPQGSVQGVQPPQGSQQQLQGSFPQPPQQLGGQP 239  
 214 SQGNPQAGSVQPPQLPQFEBIRNLALQTLPLAMCNVYIAPYCTI--APFGI 262  
 240 QQQQVQKGFLLQPHQIARLEWMTSIALRTLPMTCMNVPLVYSITSAPLGV 290

RESULT 7

ADH89338  
 ID ADH89338 standard; protein; 307 AA.

XX ADH89338;

XX 06-MAY-2004 (first entry)

XX T. aestivum LMW glutenin-LDI protein.

XX double stranded RNA; storage protein; 2S-albumen; 7S-globulin;

XX 11S/12S-globulin; zein-prolamine; homogenistate metabolic pathway;

XX pharmaceutical; plant; abiotic stress; fatty acid composition;

XX lipid composition; oil composition; carbohydrate composition; colour;

XX pigmentation; pathogen resistance; fruit ripening delay; aging;

XX male sterility; lignin; fibre; cotton; Vitamin E synthesis; nicotine;

XX caffeine; theophylline; threonine biosynthesis; glutenin.

XX Triticum aestivum.

XX MO2003078629-A1.